Technical Appendix for

TRAFFIC OPERATIONS REPORT FOR THE NORTH COUNTY CORRIDOR

March 2015

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108

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Caltrans

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WC13-3079

APPENDIX A:
APPROVED TRAFFIC SCOPE OF WORK AND APPROVAL LETTER

DEPARTMENT OF TRANSPORTATION
P.O. BOX 2048, STOCKTON, CA 95201
(1976 East Dr. Martin Luther King Jr. Boulevard, 95205)
TTY: California Relay Service (800) 735-2929
PHONE (209) 603-5126
FAX (209) 948-3938

Flex your power!
Be energy efficient!

April 8, 2011

Kris Balaji, Project Manager
Jacobs Engineering Group, Inc.
180 Promenade Circle, Site 300
Sacramento, CA 95834

10-STA 108 North County Corridor
Phase 1 PA / ED
EA: 10-0S800
EFIS ID: 10-0000-0263

Dear Mr. Balaji:

The purpose of this letter is to inform you that the District 10 Traffic Operations Branch has approved the FINAL EXISTING CONDITIONS REPORT FOR THE NORTH COUNTY CORRIDOR PHASE 1 PA/ED dated March, 2011 prepared by Fehr & Peers Transportation Consultants for the Stanislaus Council of Governments and Caltrans District 10. We look forward to reviewing the PA / ED Traffic Operations Report (Opening Day / Design Year) for this project.

If you have any further questions, please contact Jaime Q. Quesada at (209) 948 – 7184.

Sincerely,

VU H NGUYEN
Chief, District – 10 Traffic Operations

c: Jesus Vargas, District 10 – Program Project Manager
David Sangha, District 10 – Design Manager

Traffic Scope of Work – February 18, 2014

This presents the scope for the revised project description of the North County Corridor Project (Project). It is our understanding that the revised limits of the Project will be from Tully Road (just west of the Kiernan Avenue/McHenry Avenue intersection) to SR 120/108 just east of Oakdale. While the design of the project has not been completed it is our understanding that the Project will be an access-controlled expressway facility with at-grade crossings except at McHenry Avenue and Oakdale Road (note that other locations may potentially be grade separated depending on the traffic operations analysis). ***This work scope is based on a previously approved scope of work by the Project Team (including Caltrans).*** Only one major task (traffic forecasts) was completed from the previous scope of work. This scope of work includes only those tasks that were not completed in the previous scope of work.

WBS 100 – Project Management & Meetings

Fehr & Peers will provide project management for the transportation engineering team. Specific duties include the following:

- Supervise, coordinate, and monitor traffic study for conformance with Caltrans standards and policies
- Prepare invoices
- Prepare, circulate, and file correspondence, memos, and reports as appropriate
- Prepare minutes for all focused traffic operations meetings with Fehr & Peers in attendance
- Perform scheduling and coordination
- Prepare monthly progress reports
- Participate in 5 face to face team meetings (includes PDT, focused, and public) and 6 conference call team meetings (note: for budgeting purposes 1 face to face meeting = 2 conference call team meetings)

WBS 160.05.20 - Identify Study Locations and Collect Traffic Data

As part of the on-going effort for the Project Fehr & Peers collected existing AM (7-9 AM) and PM (4-6 PM) peak period intersection traffic counts at the following 17 intersections in 2010. ***This work scope (like previous approved work scope) assumes that these counts are valid for use and will not be recounted.***

1. Kiernan Avenue/Tully Road	10. SR 108/1st Street
2. McHenry Avenue/Ladd Road	11. SR 108/Claus Road
3. SR 108/Kiernan Avenue	12. Claribel Road/Claus Road
4. SR 108/Pelandale Avenue	13. Patterson Road/Crane Road
5. Coffee Road/Claribel Road	14. SR 108/Oak Avenue
6. Coffee Road/Pelandale Avenue	15. SR 108/SR 120
7. Oakdale Road/SR 108	16. Patterson Road/Albers Road
8. Oakdale Road/Claribel Road	17. SR 108/Maag Avenue
9. Oakdale Road/Pelandale Avenue	

In June 2013, Caltrans reviewed the preliminary forecasts for the rescoped NCC project. Based on that review it was determined by Caltrans and the PDT that the western limit of traffic analysis should be the Kiernan Avenue/Carver Road intersection. Therefore, intersections west of Carver Road along Kiernan Avenue (i.e., Dale Road, Stoddard Road, Sisk Road, SR 99 NB and SB Ramps) will not be evaluated. The following four additional intersections will be evaluated as part of the NCC project.

1. Kiernan Avenue/Carver Road
2. Claribel Road/Roselle Avenue
3. Claribel Road/Bentley Road

4. Claribel Road/Albers Road

Fehr & Peers will perform peak period field surveys at the 4 locations listed above to identify existing geometric features, lane configurations and traffic control devices at the intersections. Fehr & Peers will also identify existing queue lengths at each of the locations.

In the future, under Project conditions, the new North County Corridor intersections will be evaluated in addition to the intersections listed above. As part of the project several frontage roads will also be constructed adjacent to NCC. To ensure that adequate intersection spacing is provided to avoid vehicle queue spillback impacts the frontage road intersections adjacent to NCC will also be evaluated under Project conditions.

Fehr & Peers also proposes to evaluate the following roadway segments (Figure 1 presents the roadway segments and the analysis methodology that will be used to evaluate them):

- Kiernan Avenue between Carver Road and Tully Road
- Kiernan Avenue between Tully Road and McHenry Avenue
- SR 108 between Ladd Road and Kiernan Avenue
- SR 108 between Kiernan Avenue and Pelandale Avenue
- SR 108 between McHenry Avenue and Oakdale Road
- Coffee Road between SR 108 and Claribel Road
- Coffee Road between Claribel Road and Pelandale Avenue
- Oakdale Road between SR 108 and Claribel Road
- Oakdale Road between Claribel Road and Pelandale Avenue
- Claribel Road between SR 108 and Coffee Road
- Claribel Road between Coffee Road and Oakdale Road
- Pelandale Avenue between McHenry Avenue and Coffee Road
- Pelandale Avenue between Coffee Road and Oakdale Road.
- SR 108 between Oakdale Road and 1st Street
- SR 108 between 1st Street and Claus Road
- Patterson Pass between SR 108 and Langworth Road
- Roselle Avenue between Patterson Road and Claribel Road
- Roselle Avenue between Claribel Road and Sylvan Avenue
- Claus Road between Patterson Road and Claribel Road
- Claus Road between Claribel Road and Sylvan Avenue
- Claribel Road between Oakdale Road and Claus Road
- SR 108 between Claus Road and Crane Road
- Langworth Road between SR 108 and Claribel Road
- Claribel Road between Claus Road and Langworth Road
- SR 108 between Crane Road and Oak Avenue
- Patterson Road between Crane Road and Albers
- Claribel Road between Langworth Road and Oakdale Waterford Highway
- SR 108 between Oak Avenue and SR 120
- Yosemite Avenue between SR 108 and Patterson Road
- Albers Road between Patterson Road and Claribel Road
- Oakdale Waterford Highway between Patterson Road and Claribel Road
- SR 120 between Yosemite Avenue and Maag Avenue
- SR 120 between Maag Avenue and Wamble Road
- SR 120 between Wamble Road and Lancaster Road

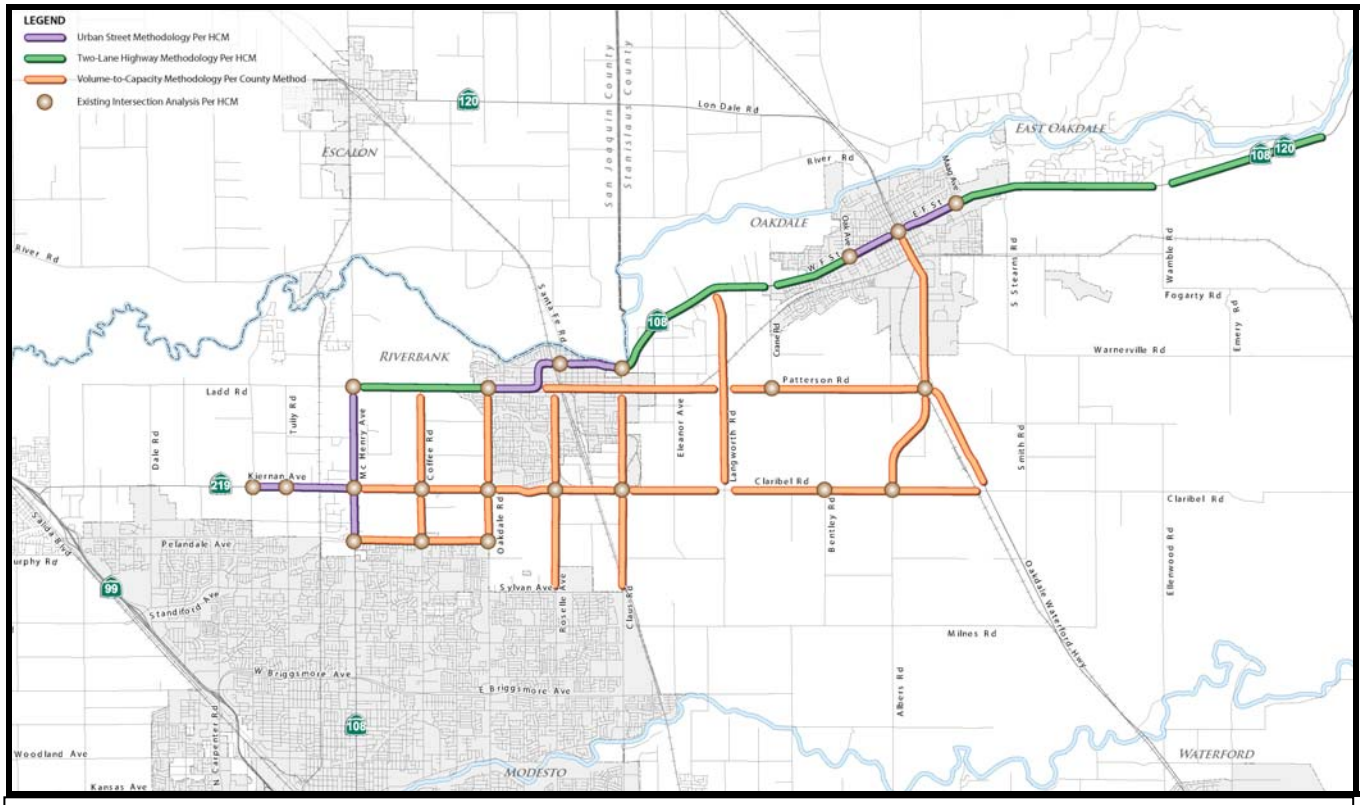


Figure 1: Proposed Study Locations and Analysis Methodology

WBS 160.05.25 - Review Geometrics and Project Alternatives

Fehr & Peers will work with the Project Team to review and refine up to ***four*** Project Alternatives. It is anticipated that the major focus of this task will involve identifying the most appropriate traffic control and intersection geometry that would be necessary at each crossing with an existing or future roadway.

Intersection Control Evaluation Process

The District 10 Intersection Control Evaluation (ICE) Comparison will be completed for each intersection that is a viable option as part of the ICE process. If a roundabout is not a viable option for the location based on a preliminary analysis (capacity check/right-of-way restriction on the existing alignment, etc.) than a note will be made on the ICE Comparison Matrix for those particular locations. Fehr & Peers will perform the roundabout capacity checkusing Year 2042 peak hour volumes (either AM or PM depending on which is highest) at each location to determine if a roundabout is a viable option. The evaluation is based on *Exhibit 3-14, Roundabouts: an Informational Guide 2nd Edition (NCHRP Report 672)*. An example of the roundabout evaluation is attached. A roundabout will be considered a viable option if all approaches to the roundabout require two lanes or less (i.e. a one-lane or two-lane roundabout). *Note: The attached example would not be considered a viable roundabout option since at least one approach requires more than two lanes.* At locations where a roundabout is deemed a viable option an analysis using SIDRA 6 will be performed to determine traffic operations for the Year 2042 peak hour. The results from the SIDRA 6 analysis will be used to enter appropriate information in the Intersection Control Evaluation Comparison summary.

WBS 160.10.10 – Traffic Forecasts

Caltrans approved the traffic forecasts for NCC in July 2013. However, the local agencies have decided to add a new access location at Roselle Avenue. Fehr & Peers met with Caltrans Forecasting and Operations on February 14, 2014 to develop an approach to adjust the approved traffic forecasts. In advance of the meeting, Fehr & Peers performed the following analysis:

- Added the Roselle Avenue access point to the Year 2042 Alt.1A model.
- Re-ran the Year 2042 Alt. 1A model.
- Compared raw model output between the new Year 2042 Alt. 1A model (with Roselle Avenue access) to the old Year 2042 Alt. 1A model (without Roselle Avenue access)

Based on this information the team agreed that the changes in forecasts were limited to a small geographic area. The team agreed on the following to adjust the Year 2042 forecasts for all alternatives:

- Manually adjust the approved forecasts to account for the Roselle Avenue interchange.
- It is expected that traffic volumes will be shifted manually from the Oakdale Avenue and Claus Road access locations to the new Roselle Avenue access location based on the model comparison
- The following locations are anticipated to be adjusted:
    - NCC/Oakdale Avenue interchange
    - NCC/Claus Road intersection
    - Claribel Road/Oakdale Avenue
    - NCC (eastbound and westbound) between Oakdale Avenue and Claus Road
- Forecasts at all other locations will remain the same

The team also agreed to adjust the Year 2022 forecasts based on the same approach presented above. However, the adjustments would be based on a model comparison between the Year 2022 Alt. 1A model with and without the Roselle Avenue access.

Fehr & Peers will prepare an addendum to the *Final Year 2022, 2032 and 2042 Traffic Demand Forecasts for North County Corridor PA/ED* (July 12, 2013). The addendum will present the new Year 2022 and Year 2042 forecasts at the locations that have been updated (AM and PM peak hour turning movements, peak hour link volumes, and daily volumes) for review and approval by Caltrans.

WBS 160.10.35 – Perform Traffic Operations Analysis

The intersection traffic counts, lane configurations, signal timings, and other information collected under WBS 160.05.20 will be used to develop existing AM and PM peak hour Synchro 8.0 models. Synchro 8.0 provides results consistent with the Transportation Research Board's 2010 Highway Capacity Manual (HCM) methodology. The Synchro analysis will be converted to micro-simulation (using the SimTraffic software) to determine existing intersection delay, level of service, and 95th percentile queue lengths. Based on the results from intersection control evaluation process any intersections proposed as roundabouts will be evaluated using SIDRA 6. SIDRA 6 will be used to determine delay, level of service, and 95th percentile queue lengths at roundabout locations. The roadway segments identified in WBS 160.05.20 will be evaluated under existing conditions using the methodology identified in Figure 1.

As part of the on-going Project effort Fehr & Peers has prepared a Final Existing Conditions Report (March 2011) that did not include analysis of Kiernan Avenue west of Tully Road. This report has been reviewed and approved by the local agencies and Caltrans. As part of the Existing Conditions analysis the Synchro/SimTraffic simulation models were calibrated and validated. This work scope assumes that no new calibration/validation will be necessary. However, given that four new intersections have been added to the analysis, the existing conditions analysis will need to be updated to reflect the LOS, delay, and queue lengths for the additional study intersections. The analysis results will be presented in the Draft and Final Traffic Operations Report (WBS 160.10.70).

The traffic forecasts developed under WBS 160.10.10 will be used to develop Synchro models (AM and PM peak hour) for up to five alternatives including No Build conditions for the opening year (2022) and design year (2042). **Note: Interim-year traffic operations analysis will not be included unless it is determined that the proposed facility will need to be widened before the Design Year (2042), then the interim scenario will be the year when the facility needs to be widened.** This scope assumes that each alternative has only one proposed configuration at each intersection (e.g. a traffic signal, side-street stop, roundabout, or grade separated) except at the NCC/Oakdale Road interchange, where two interchange concepts may be evaluated. The Synchro models will include the same intersections evaluated under existing conditions plus the new intersections created by the Project. Similar to existing conditions analysis the Synchro models will be converted to micro-simulation (SimTraffic) to determine intersection delay and level of service. Peak hour analysis will be performed for the opening year and design year for each alternative. Results will include average delay, level of service, and estimated 95th percentile queue lengths for each intersection. For analysis of intersections within the State Right of Way the measures of effectiveness (delay, level of service, and 95th percentile queue) will be reported for each individual movement.

The roadway segments identified in WBS 160.05.20 will be evaluated under opening year and design year conditions using the methodology identified in Figure 1 for up to five alternatives including No Build conditions.

The design of the facility has not yet been established. Depending on the final design of the project Fehr & Peers may perform the following:

- AM and PM peak hour two-lane highway analysis and/or
- AM and PM peak hour multi-lane highway analysis and/or
- AM and PM peak hour freeway analysis

The mainline analysis will be consistent with the methodologies presented in the 2010 HCM. In addition, ramp merge and ramp diverge analysis will be evaluated at the interchanges. If required, ramp meter storage will be determined using the 7% ramp meter storage calculation. Weaving analysis, if necessary, will be consistent with the methodologies presented in Chapter 500 (Leisch Method) of the Caltrans Highway Design Manual (HDM).

In addition to peak hour level of service analysis, Fehr & Peers will utilize the modified StanCOG 2011 RTP Model to project daily and peak hour volume changes on study roadway segments as a result of the Project. Furthermore, the regional implications of the corridor will also be evaluated by examining additional measures of effectiveness (MOEs) such as vehicle miles of travel (VMT) and vehicle hours of delay (VHD) with and without the Project. The VMT information will be provided in 5 mph speed bins.

Deliverables:

- None (Note: Information obtained from the analysis will be used for the deliverable in the following section WBS 160.10.70)

WBS 160.10.70 – Prepare Traffic Reports

Fehr & Peers will prepare the Traffic Operations Report summarizing the results and findings. The submittal will include the following:

- Key Assumptions
- Performance Measures of Effectiveness (MOE) summary tables
- Delay, LOS, and 95th percentile queue calculation reports
- Peak hour traffic signal warrant worksheets for all intersections where a signal is proposed
- Left turn/right turn/though lane storage

- SIDRA 6 output for proposed roundabout locations
- HCS 2010 Highway Capacity Analysis output
- Synchro 8/SimTraffic Output
- Provide all analysis files (electronic)

In an effort to minimize individual review times by both the internal team and Caltrans and provide meaningful information to the project team as early as possible the traffic report will be submitted as follows:

- Administrative Draft Traffic Operations Report to JPA – The report will include Existing Conditions, Traffic Forecasts, and Year 2042 Analysis

- First Draft Traffic Operations Report to Caltrans - The report will include Existing Conditions, Traffic Forecasts, and Year 2042 Analysis

- Second Draft Report to Caltrans – This report will include responses to Caltrans comments on First Draft Report and the Year 2022 Analysis and Results

- Final Report to Caltrans – If there are any comments on the Second Draft Report to Caltrans it will be updated and a Final Report will be provided

We will submit an Administrative Draft Traffic Operations Report to JPA for one round of review and written comments. We have budgeted up to 8 hours to respond to JPA written comments and prepare the First Draft Traffic Operations Report to submit to Caltrans and other PDT members for one round of review and written comments. We have budgeted up to 20 hours to respond to comments on the Draft Traffic Operations Report and prepare the Second and Final Traffic Operations Report. We will submit the final report in both hard copy and electronic format.

This work scope assumes that Drake Haglan will prepare the traffic section in the Project Report and the transportation chapter of the Environmental Document. Fehr & Peers has also budgeted up to 6 hours to respond to comments on the public draft environmental document. Assuming that it takes ½ hour to respond to one comment translates to responding up to 12 comments.

Deliverables:

- Administrative Draft Traffic Operations Report
- First Draft Traffic Operations Report
- Second Draft Traffic Operations Report
- Final Traffic Operations Report

Assumptions:

All deliverables will be subject to one review cycle by Caltrans and the JPA.

Example Roundabout Planning Level Evaluation

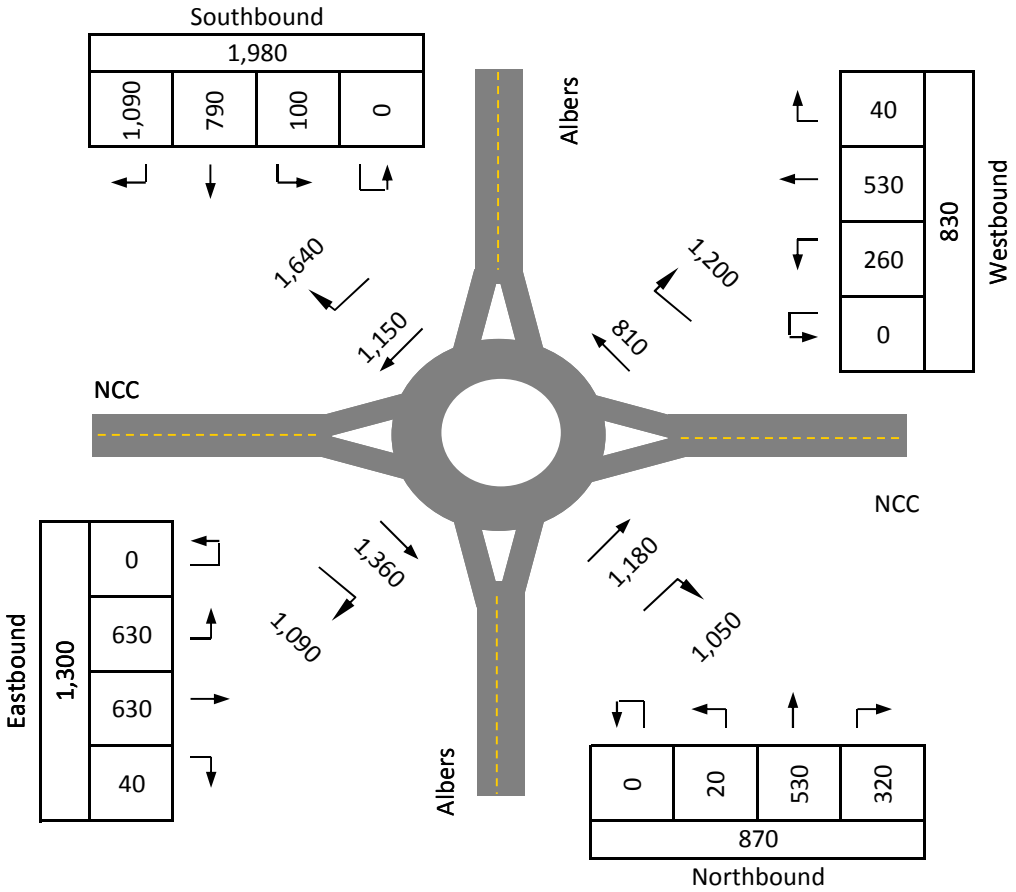
Roundabout Planning Evaluation
Determines Circulating Lanes Needed

FEHR PEERS

Project	NCC - Alternative 1	Sheet	1	of	1
Scenario	Year 2042	Street 1	Albers		
Peak Hour	PM	Street 2	NCC		

Peak Hour Turn Movement Volumes

Movement	Northbound	Westbound	Southbound	Eastbound
U Turn	0	0	0	0
Left Turn	20	260	100	630
Through	530	530	790	630
Right Turn	320	40	1,090	40
Total	870	830	1,980	1,300



Circulating Volume Check

Quadrant	Volume	Range	Lanes
From Eastbound to Northbound	2,450	> 1,800	**More than Two Lanes**
From Northbound to Westbound	2,230	> 1,800	**More than Two Lanes**
From Westbound to Southbound	2,010	> 1,800	**More than Two Lanes**
From Southbound to Eastbound	2,790	> 1,800	**More than Two Lanes**

Source: Exhibit 3-14, Roundabouts: an Informational Guide 2nd Edition (NCHRP Report 672)

APPENDIX B:
TRAFFIC COUNT DATA

2012 Traffic Counts

MARKS TRAFFIC DATA
mietekm@comcast.net
916.806.0250

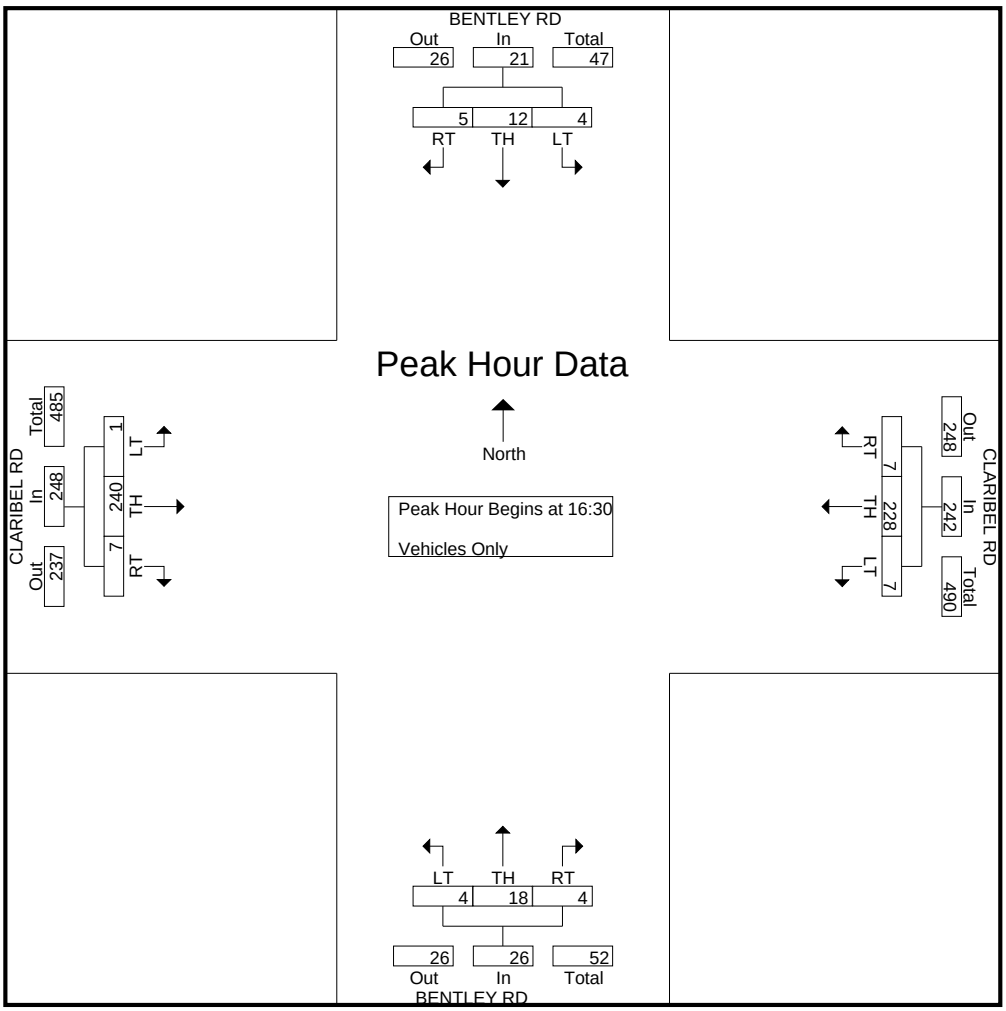
STANISLAUS COUNTY

File Name : bentley-claribel-p
Site Code : 8
Start Date : 10/25/2012
Page No : 1

Groups Printed- Vehicles Only

	BENTLEY RD Southbound				CLARIBEL RD Westbound				BENTLEY RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	1	3	0	4	1	43	0	44	0	3	1	4	3	43	1	47	99
16:15	0	4	1	5	0	63	0	63	1	4	5	10	0	39	3	42	120
16:30	0	3	1	4	1	64	1	66	3	4	1	8	0	49	0	49	127
16:45	0	4	0	4	2	44	0	46	0	8	0	8	1	54	1	56	114
Total	1	14	2	17	4	214	1	219	4	19	7	30	4	185	5	194	460
17:00	3	3	3	9	1	74	3	78	1	2	0	3	3	79	0	82	172
17:15	2	2	0	4	3	46	3	52	0	4	3	7	3	58	0	61	124
17:30	2	1	0	3	1	46	0	47	1	3	0	4	2	39	0	41	95
17:45	1	3	1	5	1	54	0	55	2	3	1	6	1	53	0	54	120
Total	8	9	4	21	6	220	6	232	4	12	4	20	9	229	0	238	511
Grand Total	9	23	6	38	10	434	7	451	8	31	11	50	13	414	5	432	971
Apprch %	23.7	60.5	15.8		2.2	96.2	1.6		16	62	22		3	95.8	1.2		
Total %	0.9	2.4	0.6	3.9	1	44.7	0.7	46.4	0.8	3.2	1.1	5.1	1.3	42.6	0.5	44.5	

	BENTLEY RD Southbound				CLARIBEL RD Westbound				BENTLEY RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	0	3	1	4	1	64	1	66	**3**	4	1	**8**	0	49	0	49	127
16:45	0	**4**	0	4	2	44	0	46	0	**8**	0	8	1	54	**1**	56	114
17:00	**3**	3	**3**	**9**	1	**74**	**3**	**78**	1	2	0	3	**3**	**79**	0	**82**	**172**
17:15	2	2	0	4	**3**	46	3	52	0	4	**3**	7	3	58	0	61	124
Total Volume	5	12	4	21	7	228	7	242	4	18	4	26	7	240	1	248	537
% App. Total	23.8	57.1	19		2.9	94.2	2.9		15.4	69.2	15.4		2.8	96.8	0.4		
PHF	.417	.750	.333	.583	.583	.770	.583	.776	.333	.563	.333	.813	.583	.759	.250	.756	.781



MARKS TRAFFIC DATA
mietekm@comcast.net
916.806.0250

STANISLAUS COUNTY

File Name : bentley-claribel-a
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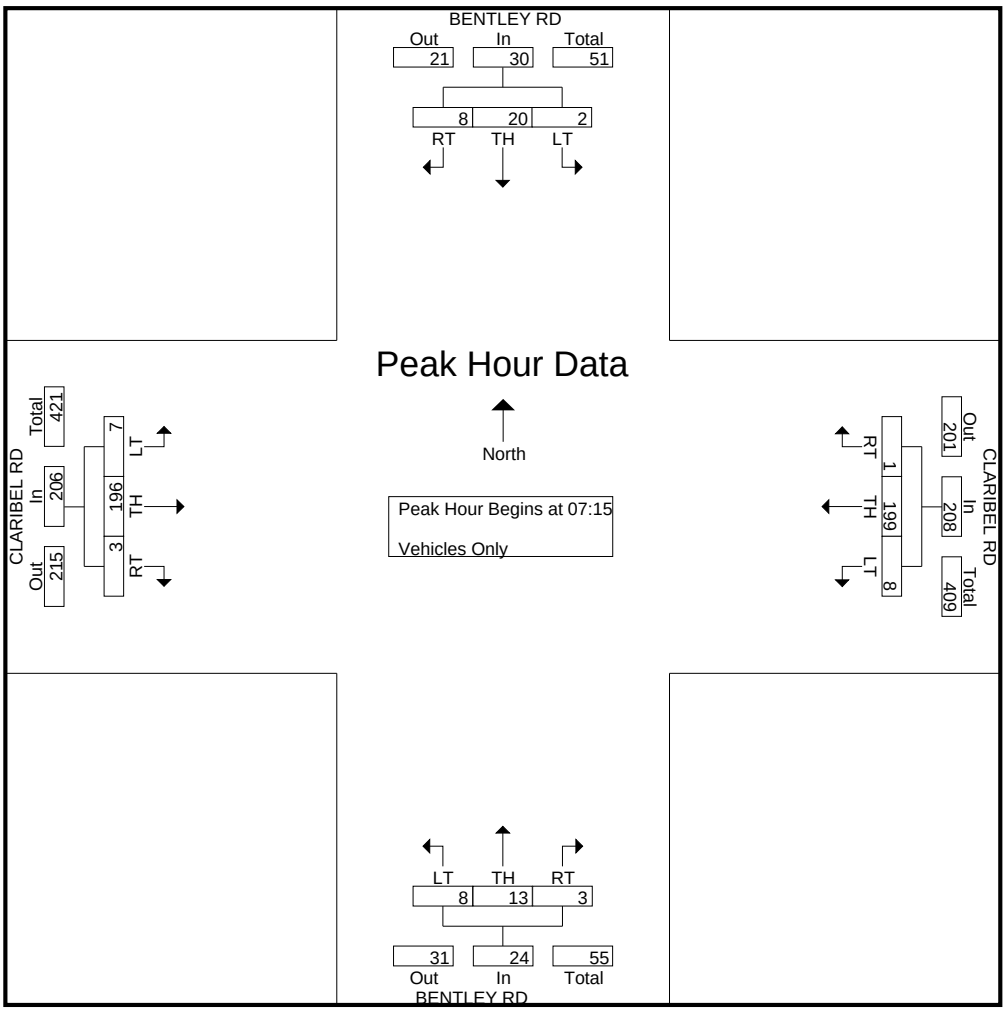
Groups Printed- Vehicles Only

	BENTLEY RD Southbound				CLARIBEL RD Westbound				BENTLEY RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	3	4	0	7	0	44	2	46	1	2	1	4	0	38	1	39	96
07:15	4	5	0	9	0	49	1	50	1	3	3	7	0	43	3	46	112
07:30	0	7	1	8	0	50	2	52	1	2	2	5	1	52	1	54	119
07:45	3	4	0	7	1	50	3	54	1	7	1	9	0	58	0	58	128
Total	10	20	1	31	1	193	8	202	4	14	7	25	1	191	5	197	455
08:00	1	4	1	6	0	50	2	52	0	1	2	3	2	43	3	48	109
08:15	2	5	1	8	2	35	1	38	0	2	1	3	1	36	0	37	86
08:30	1	5	1	7	0	44	0	44	0	2	0	2	0	31	2	33	86
08:45	2	4	0	6	1	31	2	34	1	3	1	5	0	39	2	41	86
Total	6	18	3	27	3	160	5	168	1	8	4	13	3	149	7	159	367
Grand Total	16	38	4	58	4	353	13	370	5	22	11	38	4	340	12	356	822
Apprch %	27.6	65.5	6.9		1.1	95.4	3.5		13.2	57.9	28.9		1.1	95.5	3.4		
Total %	1.9	4.6	0.5	7.1	0.5	42.9	1.6	45	0.6	2.7	1.3	4.6	0.5	41.4	1.5	43.3	

	BENTLEY RD Southbound				CLARIBEL RD Westbound				BENTLEY RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	**4**	5	0	**9**	0	49	1	50	**1**	3	**3**	7	0	43	**3**	46	112
07:30	0	**7**	**1**	8	0	**50**	2	52	1	2	2	5	1	52	1	54	119
07:45	3	4	0	7	**1**	50	**3**	**54**	1	**7**	1	**9**	0	**58**	0	**58**	**128**
08:00	1	4	1	6	0	50	2	52	0	1	2	3	**2**	43	3	48	109
Total Volume	8	20	2	30	1	199	8	208	3	13	8	24	3	196	7	206	468
% App. Total	26.7	66.7	6.7		0.5	95.7	3.8		12.5	54.2	33.3		1.5	95.1	3.4		
PHF	.500	.714	.500	.833	.250	.995	.667	.963	.750	.464	.667	.667	.375	.845	.583	.888	.914



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mietekm@comcast.net
916.806.0250

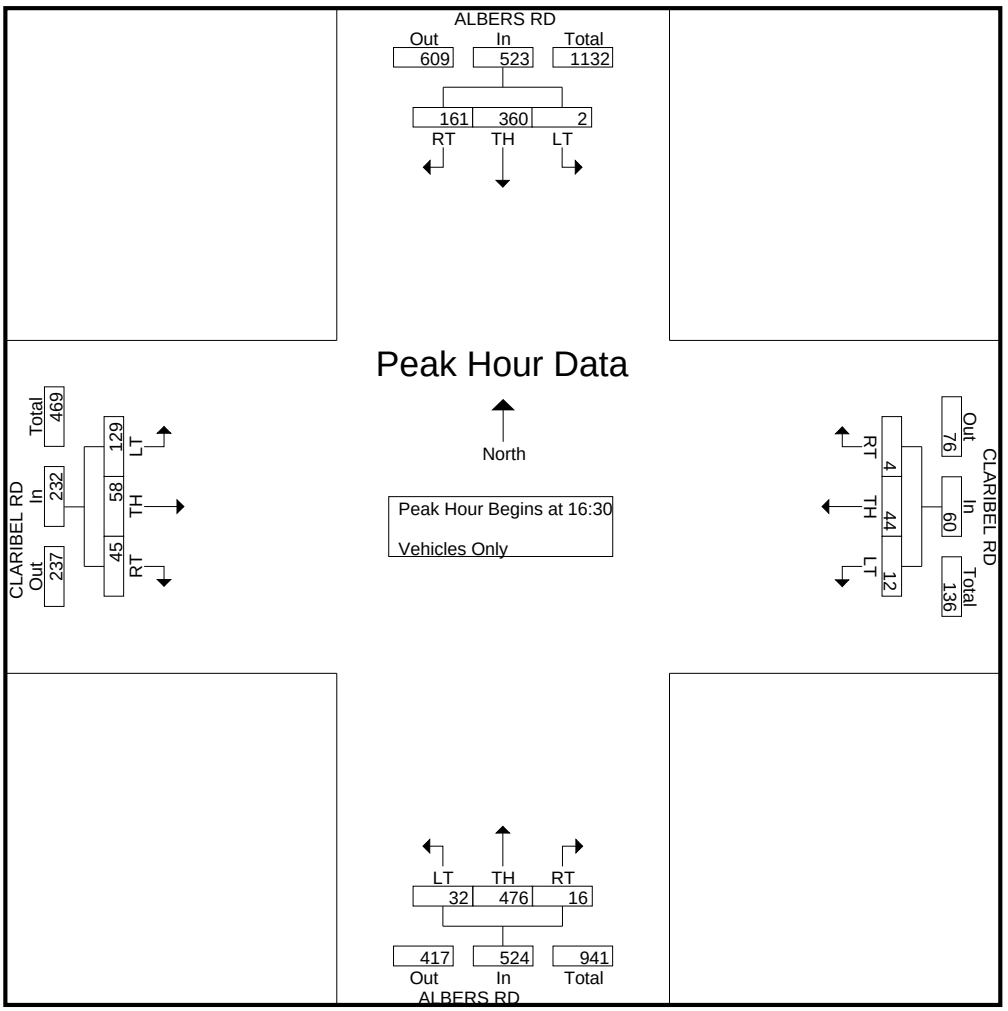
STANISLAUS COUNTY

File Name : albers-claribel-p
Site Code : 9
Start Date : 10/25/2012
Page No : 1

Groups Printed- Vehicles Only

	ALBERS RD Southbound				CLARIBEL RD Westbound				ALBERS RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	29	102	1	132	0	10	5	15	1	108	6	115	4	9	36	49	311
16:15	35	90	1	126	0	16	7	23	3	107	11	121	7	8	25	40	310
16:30	42	110	0	152	1	10	2	13	0	112	8	120	5	14	27	46	331
16:45	39	88	1	128	1	9	3	13	7	123	3	133	9	11	41	61	335
Total	145	390	3	538	2	45	17	64	11	450	28	489	25	42	129	196	1287
17:00	49	83	0	132	0	13	3	16	3	117	11	131	18	23	32	73	352
17:15	31	79	1	111	2	12	4	18	6	124	10	140	13	10	29	52	321
17:30	36	93	0	129	2	8	2	12	5	116	11	132	1	13	24	38	311
17:45	24	75	1	100	2	12	2	16	6	74	5	85	3	12	40	55	256
Total	140	330	2	472	6	45	11	62	20	431	37	488	35	58	125	218	1240
Grand Total	285	720	5	1010	8	90	28	126	31	881	65	977	60	100	254	414	2527
Apprch %	28.2	71.3	0.5		6.3	71.4	22.2		3.2	90.2	6.7		14.5	24.2	61.4		
Total %	11.3	28.5	0.2	40	0.3	3.6	1.1	5	1.2	34.9	2.6	38.7	2.4	4	10.1	16.4	

	ALBERS RD Southbound				CLARIBEL RD Westbound				ALBERS RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	42	**110**	0	**152**	1	10	2	13	0	112	8	120	5	14	27	46	331
16:45	39	88	**1**	128	1	9	3	13	**7**	123	3	133	9	11	**41**	61	335
17:00	**49**	83	0	132	0	**13**	3	16	3	117	**11**	131	**18**	**23**	32	**73**	**352**
17:15	31	79	1	111	**2**	12	**4**	**18**	6	**124**	10	**140**	13	10	29	52	321
Total Volume	161	360	2	523	4	44	12	60	16	476	32	524	45	58	129	232	1339
% App. Total	30.8	68.8	0.4		6.7	73.3	20		3.1	90.8	6.1		19.4	25	55.6		
PHF	.821	.818	.500	.860	.500	.846	.750	.833	.571	.960	.727	.936	.625	.630	.787	.795	.951



MARKS TRAFFIC DATA
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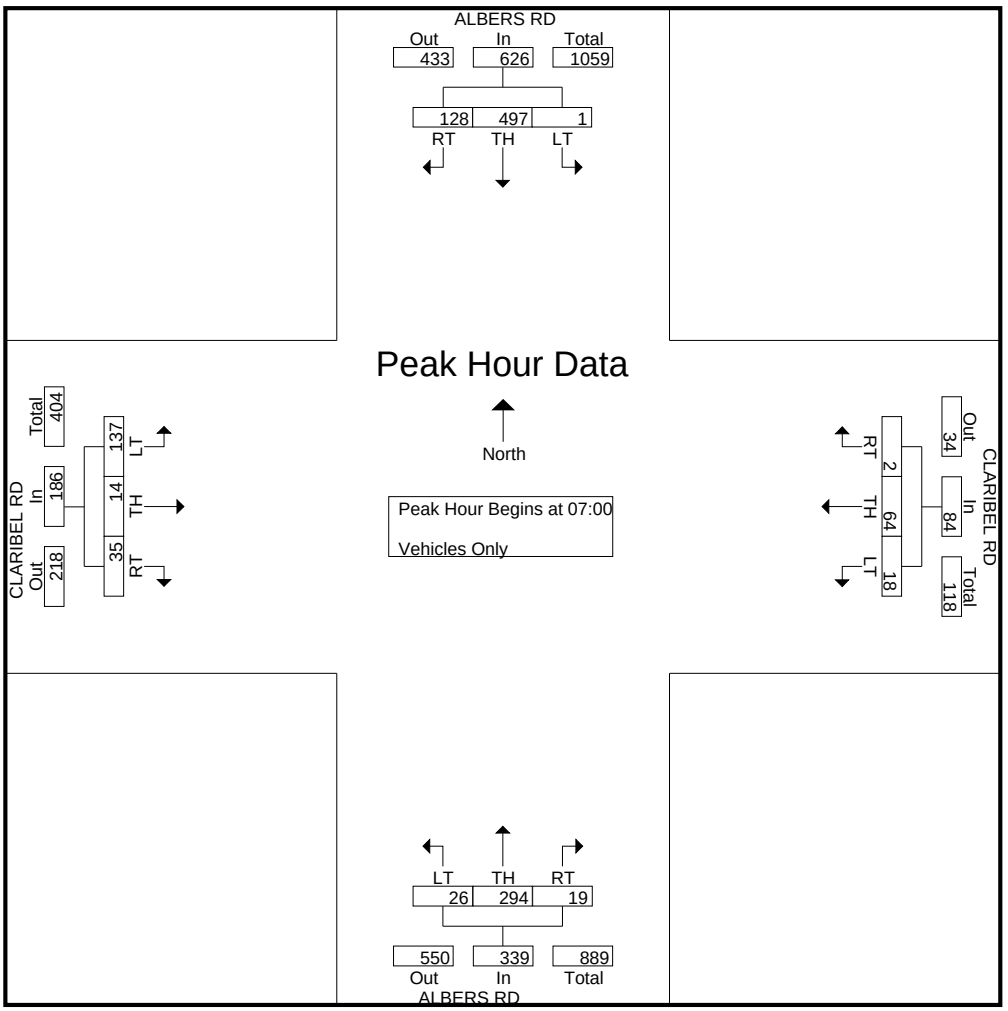
STANISLAUS COUNTY

File Name : albers-claribel-a
Site Code : 9
Start Date : 10/25/2012
Page No : 1

Groups Printed- Vehicles Only

	ALBERS RD Southbound				CLARIBEL RD Westbound				ALBERS RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	35	131	0	166	0	16	3	19	5	55	6	66	7	2	22	31	282
07:15	33	135	0	168	2	15	4	21	4	68	5	77	9	3	29	41	307
07:30	29	135	1	165	0	18	7	25	4	85	13	102	16	4	36	56	348
07:45	31	96	0	127	0	15	4	19	6	86	2	94	3	5	50	58	298
Total	128	497	1	626	2	64	18	84	19	294	26	339	35	14	137	186	1235
08:00	33	82	0	115	0	11	1	12	2	64	5	71	10	3	35	48	246
08:15	21	75	1	97	1	10	4	15	1	61	3	65	9	6	24	39	216
08:30	29	57	0	86	0	9	2	11	4	66	5	75	4	5	24	33	205
08:45	29	70	1	100	0	3	2	5	11	54	3	68	5	6	31	42	215
Total	112	284	2	398	1	33	9	43	18	245	16	279	28	20	114	162	882
Grand Total	240	781	3	1024	3	97	27	127	37	539	42	618	63	34	251	348	2117
Apprch %	23.4	76.3	0.3		2.4	76.4	21.3		6	87.2	6.8		18.1	9.8	72.1		
Total %	11.3	36.9	0.1	48.4	0.1	4.6	1.3	6	1.7	25.5	2	29.2	3	1.6	11.9	16.4	

	ALBERS RD Southbound				CLARIBEL RD Westbound				ALBERS RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00																	
07:00	**35**	131	0	166	0	16	3	19	5	55	6	66	7	2	22	31	282
07:15	33	**135**	0	**168**	**2**	15	4	21	4	68	5	77	9	3	29	41	307
07:30	29	135	**1**	165	0	**18**	**7**	**25**	4	85	**13**	**102**	**16**	4	36	56	**348**
07:45	31	96	0	127	0	15	4	19	**6**	**86**	2	94	3	**5**	**50**	**58**	298
Total Volume	128	497	1	626	2	64	18	84	19	294	26	339	35	14	137	186	1235
% App. Total	20.4	79.4	0.2		2.4	76.2	21.4		5.6	86.7	7.7		18.8	7.5	73.7		
PHF	.914	.920	.250	.932	.250	.889	.643	.840	.792	.855	.500	.831	.547	.700	.685	.802	.887



MARKS TRAFFIC DATA
mietekm@comcast.net
916.806.0250

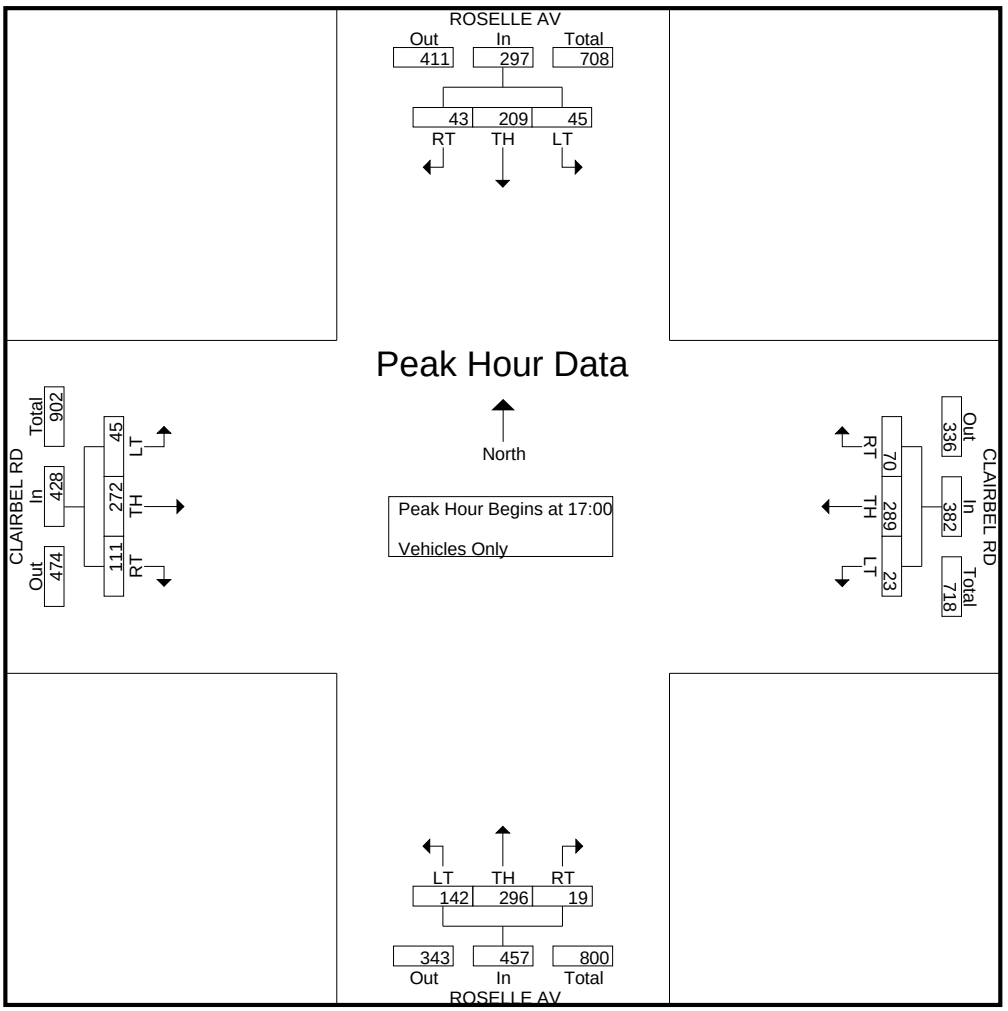
STANISLAUS COUNTY

File Name : roselle-claribel-p
Site Code : 7
Start Date : 10/25/2012
Page No : 1

Groups Printed- Vehicles Only

	ROSELLE AV Southbound				CLAIRBEL RD Westbound				ROSELLE AV Northbound				CLAIRBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	7	47	7	61	22	66	4	92	2	43	30	75	17	63	13	93	321
16:15	16	48	5	69	9	34	15	58	4	57	27	88	21	75	15	111	326
16:30	8	45	16	69	19	41	14	74	6	66	38	110	32	59	14	105	358
16:45	12	62	12	86	16	45	13	74	8	62	37	107	34	61	14	109	376
Total	43	202	40	285	66	186	46	298	20	228	132	380	104	258	56	418	1381
17:00	13	57	12	82	23	84	5	112	5	78	26	109	24	67	9	100	403
17:15	7	57	8	72	15	70	4	89	4	75	34	113	27	67	17	111	385
17:30	10	42	8	60	10	68	8	86	4	76	38	118	40	70	10	120	384
17:45	13	53	17	83	22	67	6	95	6	67	44	117	20	68	9	97	392
Total	43	209	45	297	70	289	23	382	19	296	142	457	111	272	45	428	1564
Grand Total	86	411	85	582	136	475	69	680	39	524	274	837	215	530	101	846	2945
Apprch %	14.8	70.6	14.6		20	69.9	10.1		4.7	62.6	32.7		25.4	62.6	11.9		
Total %	2.9	14	2.9	19.8	4.6	16.1	2.3	23.1	1.3	17.8	9.3	28.4	7.3	18	3.4	28.7	

	ROSELLE AV Southbound				CLAIRBEL RD Westbound				ROSELLE AV Northbound				CLAIRBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	**13**	**57**	12	82	**23**	**84**	5	**112**	5	**78**	26	109	24	67	9	100	**403**
17:15	7	57	8	72	15	70	4	89	4	75	34	113	27	67	**17**	111	385
17:30	10	42	8	60	10	68	**8**	86	4	76	38	**118**	**40**	**70**	10	**120**	384
17:45	13	53	**17**	**83**	22	67	6	95	**6**	67	**44**	117	20	68	9	97	392
Total Volume	43	209	45	297	70	289	23	382	19	296	142	457	111	272	45	428	1564
% App. Total	14.5	70.4	15.2		18.3	75.7	6		4.2	64.8	31.1		25.9	63.6	10.5		
PHF	.827	.917	.662	.895	.761	.860	.719	.853	.792	.949	.807	.968	.694	.971	.662	.892	.970



MARKS TRAFFIC DATA
mietekm@comcast.net
916.806.0250

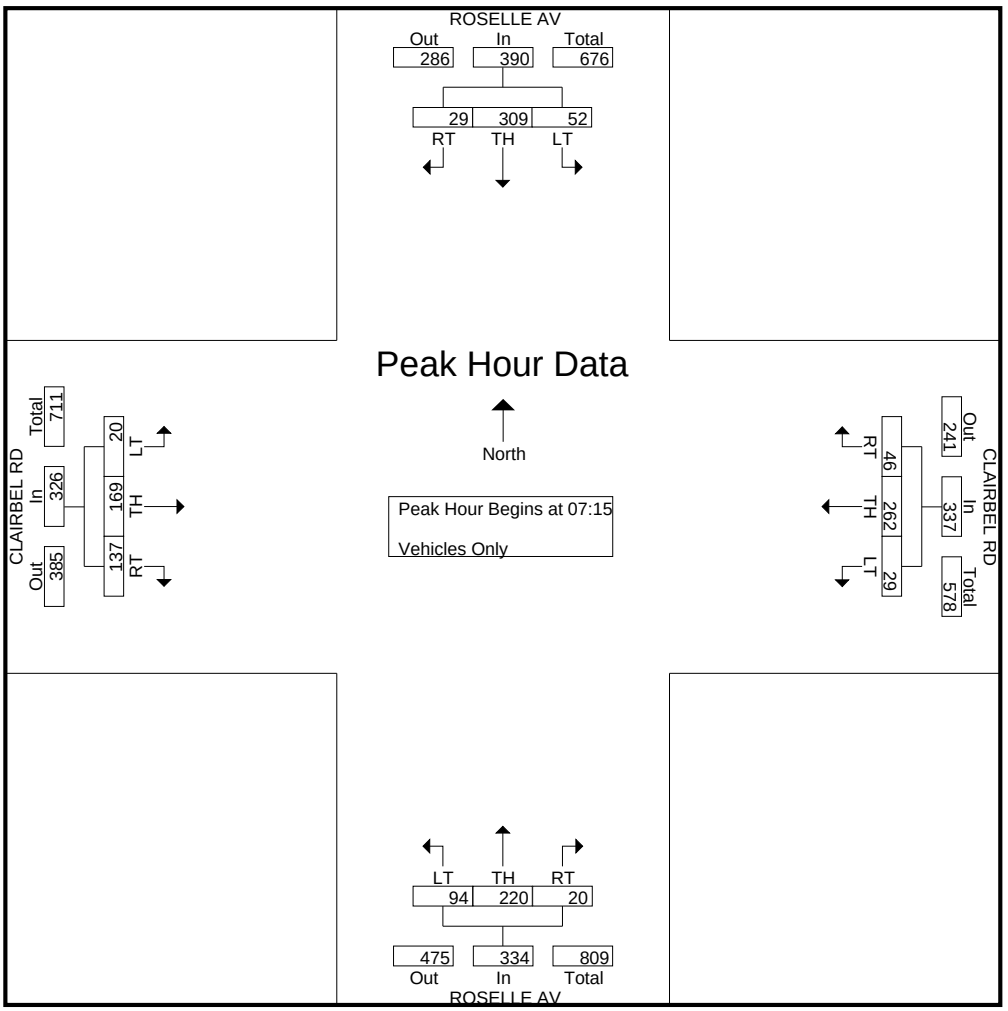
STANISLAUS COUNTY

File Name : roselle-claribel-a
Site Code : 7
Start Date : 10/25/2012
Page No : 1

Groups Printed- Vehicles Only

	ROSELLE AV Southbound				CLAIRBEL RD Westbound				ROSELLE AV Northbound				CLAIRBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	12	72	11	95	7	48	4	59	5	35	17	57	18	28	3	49	260
07:15	10	82	20	112	14	59	9	82	3	34	19	56	32	37	1	70	320
07:30	10	102	6	118	10	70	9	89	3	39	24	66	62	44	5	111	384
07:45	2	79	17	98	13	67	8	88	8	75	26	109	31	46	8	85	380
Total	34	335	54	423	44	244	30	318	19	183	86	288	143	155	17	315	1344
08:00	7	46	9	62	9	66	3	78	6	72	25	103	12	42	6	60	303
08:15	14	40	14	68	15	73	7	95	5	32	7	44	9	25	2	36	243
08:30	9	51	19	79	7	53	2	62	1	16	19	36	9	29	4	42	219
08:45	8	39	12	59	4	52	4	60	3	27	18	48	15	37	7	59	226
Total	38	176	54	268	35	244	16	295	15	147	69	231	45	133	19	197	991
Grand Total	72	511	108	691	79	488	46	613	34	330	155	519	188	288	36	512	2335
Apprch %	10.4	74	15.6		12.9	79.6	7.5		6.6	63.6	29.9		36.7	56.2	7		
Total %	3.1	21.9	4.6	29.6	3.4	20.9	2	26.3	1.5	14.1	6.6	22.2	8.1	12.3	1.5	21.9	

	ROSELLE AV Southbound				CLAIRBEL RD Westbound				ROSELLE AV Northbound				CLAIRBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	**10**	82	**20**	112	**14**	59	**9**	82	3	34	19	56	32	37	1	70	320
07:30	10	**102**	6	**118**	10	**70**	9	**89**	3	39	24	66	**62**	44	5	**111**	**384**
07:45	2	79	17	98	13	67	8	88	**8**	**75**	**26**	**109**	31	**46**	**8**	85	380
08:00	7	46	9	62	9	66	3	78	6	72	25	103	12	42	6	60	303
Total Volume	29	309	52	390	46	262	29	337	20	220	94	334	137	169	20	326	1387
% App. Total	7.4	79.2	13.3		13.6	77.7	8.6		6	65.9	28.1		42	51.8	6.1		
PHF	.725	.757	.650	.826	.821	.936	.806	.947	.625	.733	.904	.766	.552	.918	.625	.734	.903



MARKS TRAFFIC DATA
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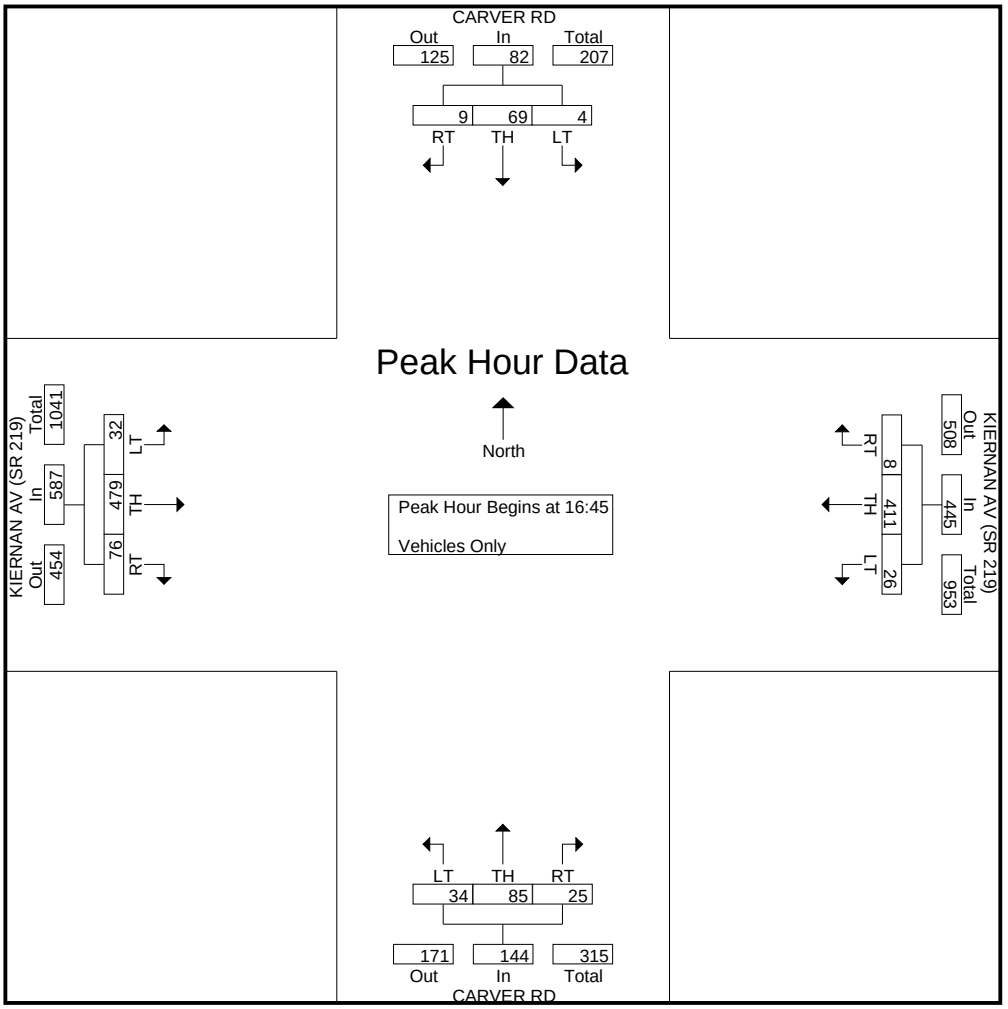
STANISLAUS COUNTY

File Name : carver-kiernan-p
Site Code : 1
Start Date : 10/24/2012
Page No : 1

Groups Printed- Vehicles Only

	CARVER RD Southbound				KIERNAN AV (SR 219) Westbound				CARVER RD Northbound				KIERNAN AV (SR 219) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	6	16	2	24	3	95	15	113	8	20	6	34	13	120	5	138	309
16:15	4	19	1	24	1	89	8	98	3	21	2	26	22	127	6	155	303
16:30	4	17	2	23	1	95	7	103	4	21	3	28	17	118	5	140	294
16:45	3	15	2	20	3	101	9	113	2	23	5	30	15	122	8	145	308
Total	17	67	7	91	8	380	39	427	17	85	16	118	67	487	24	578	1214
17:00	1	21	0	22	1	120	7	128	9	19	6	34	23	120	12	155	339
17:15	1	15	0	16	2	101	6	109	6	24	11	41	18	128	3	149	315
17:30	4	18	2	24	2	89	4	95	8	19	12	39	20	109	9	138	296
17:45	0	8	0	8	0	74	7	81	6	22	4	32	9	115	6	130	251
Total	6	62	2	70	5	384	24	413	29	84	33	146	70	472	30	572	1201
Grand Total	23	129	9	161	13	764	63	840	46	169	49	264	137	959	54	1150	2415
Apprch %	14.3	80.1	5.6		1.5	91	7.5		17.4	64	18.6		11.9	83.4	4.7		
Total %	1	5.3	0.4	6.7	0.5	31.6	2.6	34.8	1.9	7	2	10.9	5.7	39.7	2.2	47.6	

	CARVER RD Southbound				KIERNAN AV (SR 219) Westbound				CARVER RD Northbound				KIERNAN AV (SR 219) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	3	15	**2**	20	**3**	101	**9**	113	2	23	5	30	15	122	8	145	308
17:00	1	**21**	0	22	1	**120**	7	**128**	**9**	19	6	34	**23**	120	**12**	**155**	**339**
17:15	1	15	0	16	2	101	6	109	6	**24**	11	**41**	18	**128**	3	149	315
17:30	**4**	18	2	**24**	2	89	4	95	8	19	**12**	39	20	109	9	138	296
Total Volume	9	69	4	82	8	411	26	445	25	85	34	144	76	479	32	587	1258
% App. Total	11	84.1	4.9		1.8	92.4	5.8		17.4	59	23.6		12.9	81.6	5.5		
PHF	.563	.821	.500	.854	.667	.856	.722	.869	.694	.885	.708	.878	.826	.936	.667	.947	.928



MARKS TRAFFIC DATA
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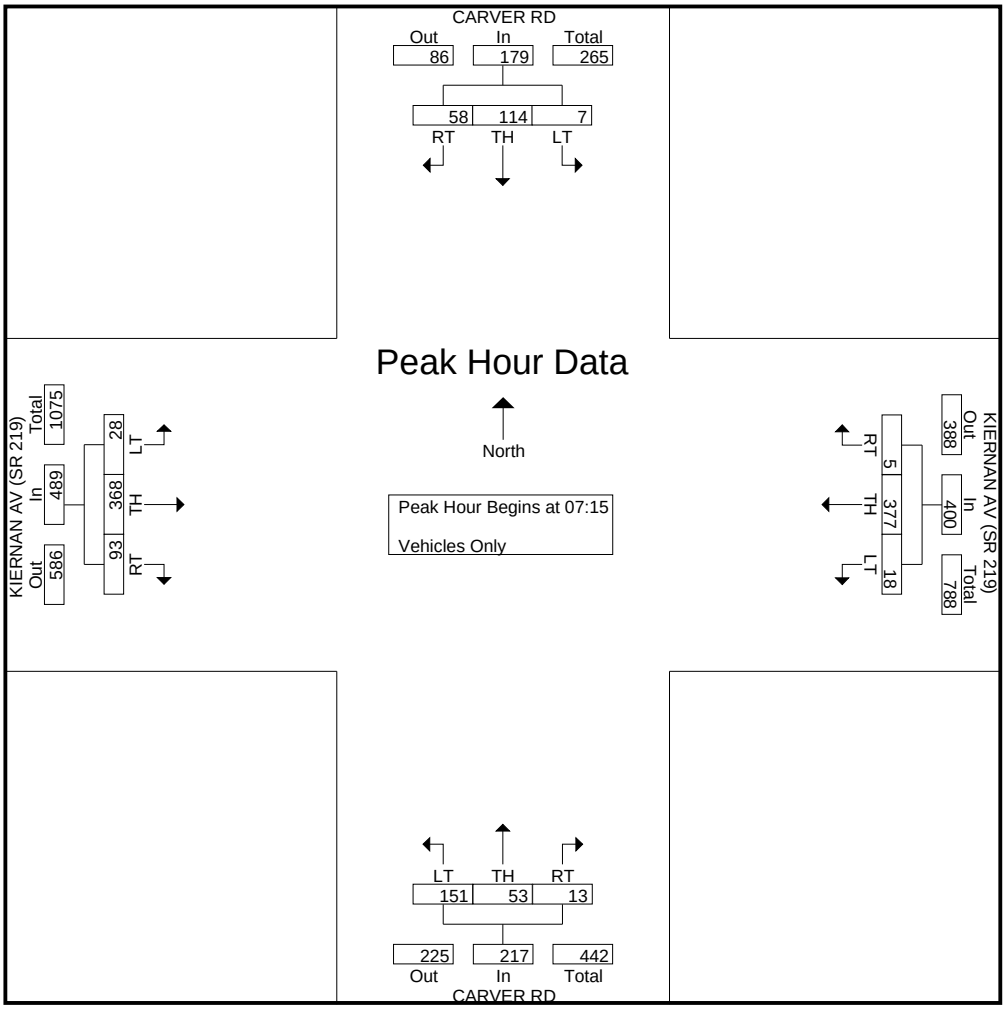
STANISLAUS COUNTY

File Name : carver-kiernan-a
Site Code : 1
Start Date : 10/24/2012
Page No : 1

Groups Printed- Vehicles Only

	CARVER RD Southbound				KIERNAN AV (SR 219) Westbound				CARVER RD Northbound				KIERNAN AV (SR 219) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	4	19	1	24	3	76	2	81	11	20	4	35	6	50	3	59	199
07:15	8	23	0	31	0	94	2	96	2	15	25	42	5	82	3	90	259
07:30	18	32	2	52	1	116	4	121	4	6	62	72	19	94	6	119	364
07:45	27	37	2	66	1	82	2	85	1	17	51	69	50	105	14	169	389
Total	57	111	5	173	5	368	10	383	18	58	142	218	80	331	26	437	1211
08:00	5	22	3	30	3	85	10	98	6	15	13	34	19	87	5	111	273
08:15	0	18	0	18	2	93	4	99	5	14	6	25	15	86	10	111	253
08:30	4	14	2	20	2	75	6	83	5	10	6	21	3	77	3	83	207
08:45	3	16	0	19	0	59	4	63	4	12	4	20	4	97	6	107	209
Total	12	70	5	87	7	312	24	343	20	51	29	100	41	347	24	412	942
Grand Total	69	181	10	260	12	680	34	726	38	109	171	318	121	678	50	849	2153
Apprch %	26.5	69.6	3.8		1.7	93.7	4.7		11.9	34.3	53.8		14.3	79.9	5.9		
Total %	3.2	8.4	0.5	12.1	0.6	31.6	1.6	33.7	1.8	5.1	7.9	14.8	5.6	31.5	2.3	39.4	

	CARVER RD Southbound				KIERNAN AV (SR 219) Westbound				CARVER RD Northbound				KIERNAN AV (SR 219) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	8	23	0	31	0	94	2	96	2	15	25	42	5	82	3	90	259
07:30	18	32	2	52	1	**116**	4	**121**	4	6	**62**	**72**	19	94	6	119	364
07:45	**27**	**37**	2	**66**	1	82	2	85	1	**17**	51	69	**50**	**105**	**14**	**169**	**389**
08:00	5	22	**3**	30	**3**	85	**10**	98	**6**	15	13	34	19	87	5	111	273
Total Volume	58	114	7	179	5	377	18	400	13	53	151	217	93	368	28	489	1285
% App. Total	32.4	63.7	3.9		1.2	94.2	4.5		6	24.4	69.6		19	75.3	5.7		
PHF	.537	.770	.583	.678	.417	.813	.450	.826	.542	.779	.609	.753	.465	.876	.500	.723	.826



2010 Traffic Counts

MARKS TRAFFIC DATA

STANISLAUS COUNTY

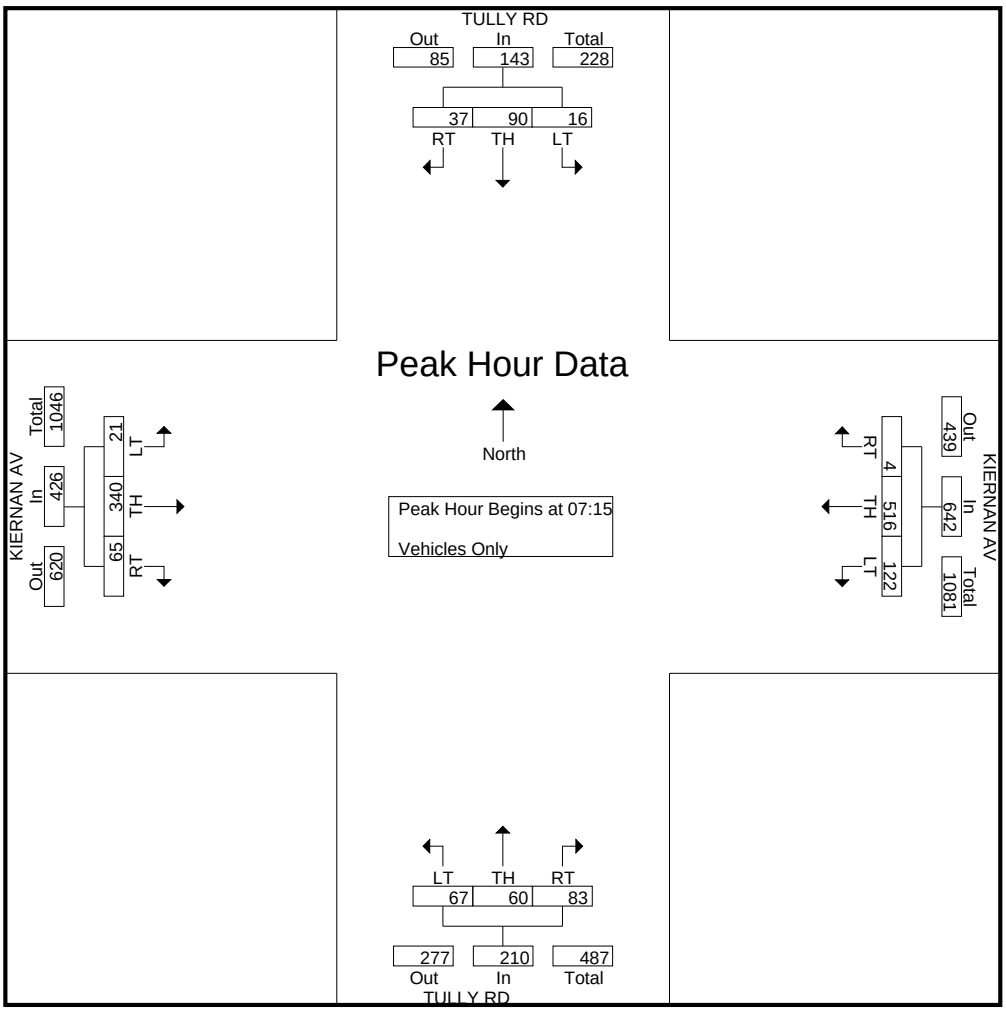
fp
Mietek 916-806-0250

File Name : tully-kiernan-a
Site Code : 1
Start Date : 8/17/2010
Page No : 1

Groups Printed- Vehicles Only

	TULLY RD Southbound				KIERNAN AV Westbound				TULLY RD Northbound				KIERNAN AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	3	14	2	19	3	76	17	96	13	8	12	33	11	63	0	74	222
07:15	9	18	3	30	1	113	25	139	12	13	17	42	18	74	2	94	305
07:30	14	29	3	46	0	140	24	164	24	22	15	61	11	79	5	95	366
07:45	10	22	5	37	3	137	43	183	29	10	18	57	26	100	8	134	411
Total	36	83	13	132	7	466	109	582	78	53	62	193	66	316	15	397	1304
08:00	4	21	5	30	0	126	30	156	18	15	17	50	10	87	6	103	339
08:15	3	36	4	43	4	92	25	121	19	21	8	48	7	79	2	88	300
08:30	1	22	2	25	1	104	31	136	14	17	9	40	7	68	1	76	277
08:45	3	18	4	25	1	63	20	84	30	10	4	44	13	87	1	101	254
Total	11	97	15	123	6	385	106	497	81	63	38	182	37	321	10	368	1170
Grand Total	47	180	28	255	13	851	215	1079	159	116	100	375	103	637	25	765	2474
Apprch %	18.4	70.6	11		1.2	78.9	19.9		42.4	30.9	26.7		13.5	83.3	3.3		
Total %	1.9	7.3	1.1	10.3	0.5	34.4	8.7	43.6	6.4	4.7	4	15.2	4.2	25.7	1	30.9	

	TULLY RD Southbound				KIERNAN AV Westbound				TULLY RD Northbound				KIERNAN AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	9	18	3	30	1	113	25	139	12	13	17	42	18	74	2	94	305
07:30	**14**	**29**	3	**46**	0	**140**	24	164	24	**22**	15	**61**	11	79	5	95	366
07:45	10	22	**5**	37	**3**	137	**43**	**183**	**29**	10	**18**	57	**26**	**100**	**8**	**134**	**411**
08:00	4	21	5	30	0	126	30	156	18	15	17	50	10	87	6	103	339
Total Volume	37	90	16	143	4	516	122	642	83	60	67	210	65	340	21	426	1421
% App. Total	25.9	62.9	11.2		0.6	80.4	19		39.5	28.6	31.9		15.3	79.8	4.9		
PHF	.661	.776	.800	.777	.333	.921	.709	.877	.716	.682	.931	.861	.625	.850	.656	.795	.864



MARKS TRAFFIC DATA

STANISLAUS COUNTY

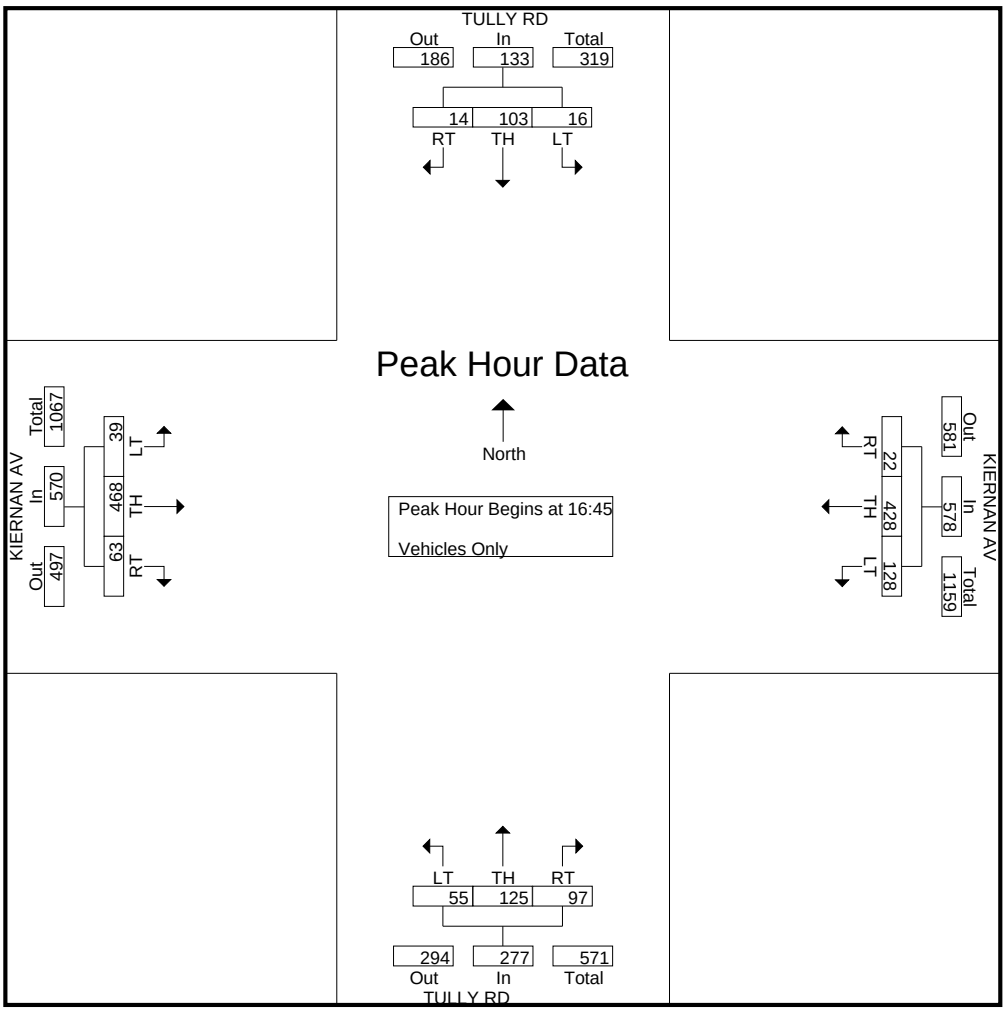
fp
Mietek 916-806-0250

File Name : tully-kiernan-p
Site Code : 1
Start Date : 8/17/2010
Page No : 1

Groups Printed- Vehicles Only

	TULLY RD Southbound				KIERNAN AV Westbound				TULLY RD Northbound				KIERNAN AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	2	23	6	31	2	103	25	130	23	21	14	58	6	115	5	126	345
16:15	1	25	5	31	8	100	24	132	21	25	8	54	12	130	3	145	362
16:30	4	29	5	38	5	101	41	147	30	29	10	69	2	120	5	127	381
16:45	5	26	9	40	5	93	41	139	23	17	7	47	11	118	9	138	364
Total	12	103	25	140	20	397	131	548	97	92	39	228	31	483	22	536	1452
17:00	2	20	2	24	9	123	37	169	22	30	17	69	5	100	6	111	373
17:15	3	32	4	39	5	109	27	141	27	47	13	87	21	126	8	155	422
17:30	4	25	1	30	3	103	23	129	25	31	18	74	26	124	16	166	399
17:45	5	23	3	31	1	91	21	113	19	28	8	55	13	102	5	120	319
Total	14	100	10	124	18	426	108	552	93	136	56	285	65	452	35	552	1513
Grand Total	26	203	35	264	38	823	239	1100	190	228	95	513	96	935	57	1088	2965
Apprch %	9.8	76.9	13.3		3.5	74.8	21.7		37	44.4	18.5		8.8	85.9	5.2		
Total %	0.9	6.8	1.2	8.9	1.3	27.8	8.1	37.1	6.4	7.7	3.2	17.3	3.2	31.5	1.9	36.7	

	TULLY RD Southbound				KIERNAN AV Westbound				TULLY RD Northbound				KIERNAN AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	**5**	26	**9**	**40**	5	93	**41**	139	23	17	7	47	11	118	9	138	364
17:00	2	20	2	24	**9**	**123**	37	**169**	22	30	17	69	5	100	6	111	373
17:15	3	**32**	4	39	5	109	27	141	**27**	**47**	13	**87**	21	**126**	8	155	**422**
17:30	4	25	1	30	3	103	23	129	25	31	**18**	74	**26**	124	**16**	**166**	399
Total Volume	14	103	16	133	22	428	128	578	97	125	55	277	63	468	39	570	1558
% App. Total	10.5	77.4	12		3.8	74	22.1		35	45.1	19.9		11.1	82.1	6.8		
PHF	.700	.805	.444	.831	.611	.870	.780	.855	.898	.665	.764	.796	.606	.929	.609	.858	.923



MARKS TRAFFIC DATA

STANISLAUS COUNTY

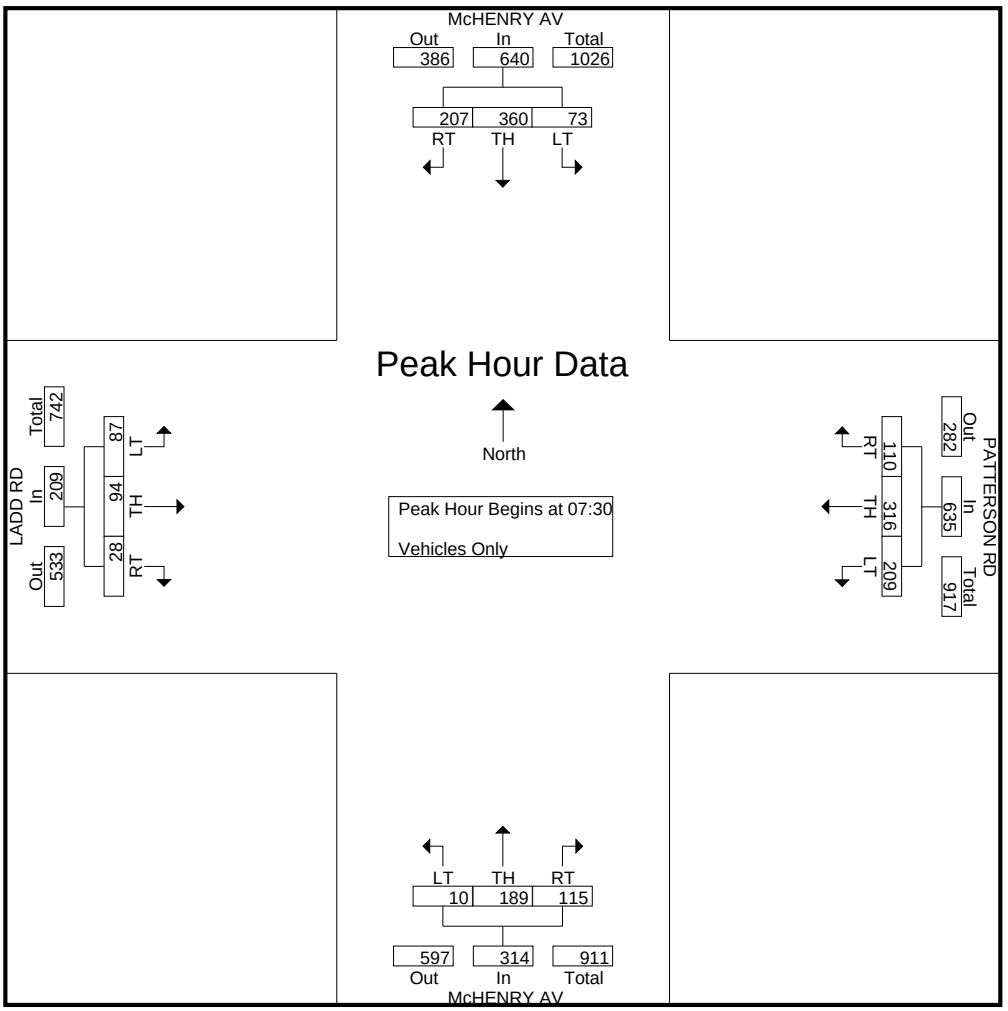
fp
Mietek 916-806-0250

File Name : mchenry-ladd-a
Site Code : 2
Start Date : 9/29/2010
Page No : 1

Groups Printed- Vehicles Only

	McHENRY AV Southbound				PATTERSON RD Westbound				McHENRY AV Northbound				LADD RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	24	73	14	111	22	55	32	109	14	30	5	49	5	19	10	34	303
07:15	59	66	14	139	34	70	50	154	35	32	5	72	3	19	23	45	410
07:30	59	91	15	165	43	94	45	182	24	55	2	81	7	21	19	47	475
07:45	49	110	22	181	24	80	68	172	31	60	3	94	5	23	28	56	503
Total	191	340	65	596	123	299	195	617	104	177	15	296	20	82	80	182	1691
08:00	47	83	9	139	24	68	57	149	24	42	3	69	6	26	20	52	409
08:15	52	76	27	155	19	74	39	132	36	32	2	70	10	24	20	54	411
08:30	34	81	16	131	28	60	39	127	40	48	2	90	9	27	14	50	398
08:45	28	89	21	138	23	61	55	139	30	37	3	70	6	23	13	42	389
Total	161	329	73	563	94	263	190	547	130	159	10	299	31	100	67	198	1607
Grand Total	352	669	138	1159	217	562	385	1164	234	336	25	595	51	182	147	380	3298
Apprch %	30.4	57.7	11.9		18.6	48.3	33.1		39.3	56.5	4.2		13.4	47.9	38.7		
Total %	10.7	20.3	4.2	35.1	6.6	17	11.7	35.3	7.1	10.2	0.8	18	1.5	5.5	4.5	11.5	

	McHENRY AV Southbound				PATTERSON RD Westbound				McHENRY AV Northbound				LADD RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	**59**	91	15	165	**43**	**94**	45	**182**	24	55	2	81	7	21	19	47	475
07:45	49	**110**	22	**181**	24	80	**68**	172	31	**60**	**3**	**94**	5	23	**28**	**56**	**503**
08:00	47	83	9	139	24	68	57	149	24	42	3	69	6	**26**	20	52	409
08:15	52	76	**27**	155	19	74	39	132	**36**	32	2	70	**10**	24	20	54	411
Total Volume	207	360	73	640	110	316	209	635	115	189	10	314	28	94	87	209	1798
% App. Total	32.3	56.2	11.4		17.3	49.8	32.9		36.6	60.2	3.2		13.4	45	41.6		
PHF	.877	.818	.676	.884	.640	.840	.768	.872	.799	.788	.833	.835	.700	.904	.777	.933	.894



MARKS TRAFFIC DATA

STANISLAUS COUNTY

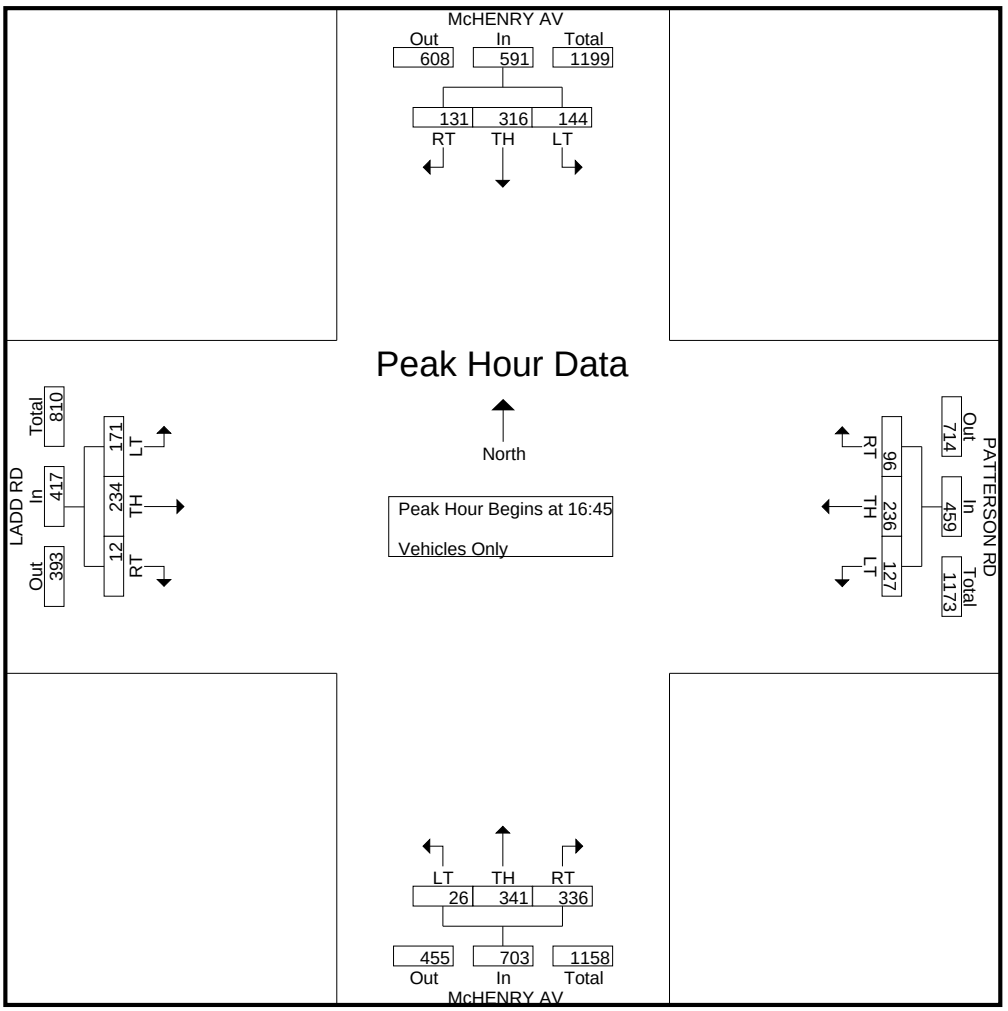
fp
Mietek 916-806-0250

File Name : mchenry-ladd-p
Site Code : 2
Start Date : 9/29/2010
Page No : 1

Groups Printed- Vehicles Only

	McHENRY AV Southbound				PATTERSON RD Westbound				McHENRY AV Northbound				LADD RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	29	55	42	126	20	46	35	101	69	65	4	138	4	71	49	124	489
16:15	30	78	40	148	16	38	35	89	91	81	4	176	7	48	41	96	509
16:30	22	78	20	120	25	42	30	97	79	75	9	163	8	65	39	112	492
16:45	27	94	33	154	26	54	41	121	90	76	6	172	4	64	41	109	556
Total	108	305	135	548	87	180	141	408	329	297	23	649	23	248	170	441	2046
17:00	25	82	36	143	19	67	32	118	75	77	4	156	3	57	40	100	517
17:15	42	66	38	146	27	57	25	109	91	107	7	205	4	57	52	113	573
17:30	37	74	37	148	24	58	29	111	80	81	9	170	1	56	38	95	524
17:45	19	62	27	108	21	56	29	106	67	58	5	130	7	53	37	97	441
Total	123	284	138	545	91	238	115	444	313	323	25	661	15	223	167	405	2055
Grand Total	231	589	273	1093	178	418	256	852	642	620	48	1310	38	471	337	846	4101
Apprch %	21.1	53.9	25		20.9	49.1	30		49	47.3	3.7		4.5	55.7	39.8		
Total %	5.6	14.4	6.7	26.7	4.3	10.2	6.2	20.8	15.7	15.1	1.2	31.9	0.9	11.5	8.2	20.6	

	McHENRY AV Southbound				PATTERSON RD Westbound				McHENRY AV Northbound				LADD RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	27	**94**	33	**154**	26	54	**41**	**121**	90	76	6	172	**4**	**64**	41	109	556
17:00	25	82	36	143	19	**67**	32	118	75	77	4	156	3	57	40	100	517
17:15	**42**	66	**38**	146	**27**	57	25	109	**91**	**107**	7	**205**	4	57	**52**	**113**	**573**
17:30	37	74	37	148	24	58	29	111	80	81	**9**	170	1	56	38	95	524
Total Volume	131	316	144	591	96	236	127	459	336	341	26	703	12	234	171	417	2170
% App. Total	22.2	53.5	24.4		20.9	51.4	27.7		47.8	48.5	3.7		2.9	56.1	41		
PHF	.780	.840	.947	.959	.889	.881	.774	.948	.923	.797	.722	.857	.750	.914	.822	.923	.947



MARKS TRAFFIC DATA

STANISLAUS COUNTY

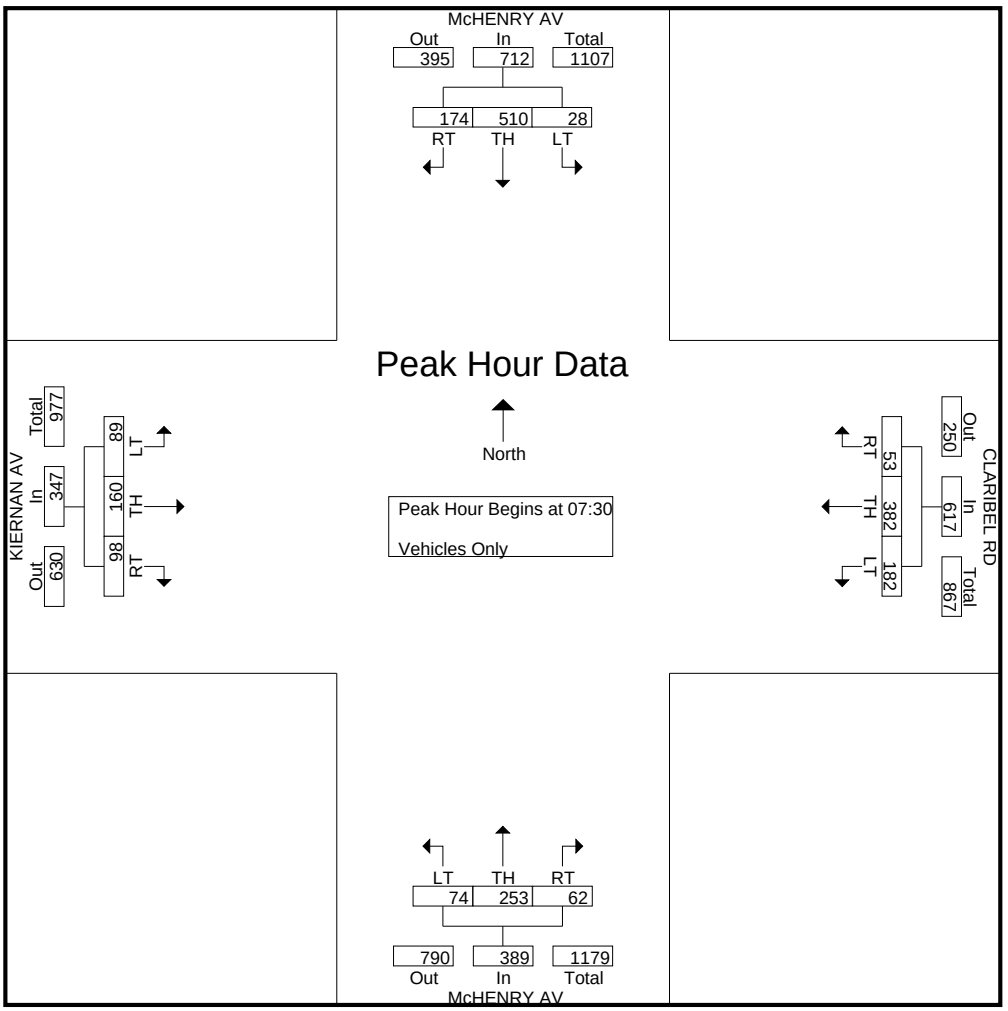
fp
Mietek 916-806-0250

File Name : mchenry-claribel-a
Site Code : 3
Start Date : 8/18/2010
Page No : 1

Groups Printed- Vehicles Only

	McHENRY AV Southbound				CLARIBEL RD Westbound				McHENRY AV Northbound				KIERNAN AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	25	75	9	109	8	54	19	81	11	43	10	64	13	32	25	70	324
07:15	33	108	9	150	11	86	37	134	9	50	14	73	12	32	18	62	419
07:30	49	142	3	194	15	91	30	136	14	61	26	101	22	34	16	72	503
07:45	44	138	4	186	11	116	68	195	20	63	18	101	28	37	20	85	567
Total	151	463	25	639	45	347	154	546	54	217	68	339	75	135	79	289	1813
08:00	44	94	13	151	13	95	51	159	13	72	13	98	21	43	31	95	503
08:15	37	136	8	181	14	80	33	127	15	57	17	89	27	46	22	95	492
08:30	39	111	13	163	4	65	38	107	21	62	13	96	29	40	30	99	465
08:45	35	110	11	156	9	57	43	109	20	52	24	96	40	46	28	114	475
Total	155	451	45	651	40	297	165	502	69	243	67	379	117	175	111	403	1935
Grand Total	306	914	70	1290	85	644	319	1048	123	460	135	718	192	310	190	692	3748
Apprch %	23.7	70.9	5.4		8.1	61.5	30.4		17.1	64.1	18.8		27.7	44.8	27.5		
Total %	8.2	24.4	1.9	34.4	2.3	17.2	8.5	28	3.3	12.3	3.6	19.2	5.1	8.3	5.1	18.5	

	McHENRY AV Southbound				CLARIBEL RD Westbound				McHENRY AV Northbound				KIERNAN AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	**49**	**142**	3	**194**	**15**	91	30	136	14	61	**26**	**101**	22	34	16	72	503
07:45	44	138	4	186	11	**116**	**68**	**195**	**20**	63	18	101	**28**	37	20	85	**567**
08:00	44	94	**13**	151	13	95	51	159	13	**72**	13	98	21	43	**31**	**95**	503
08:15	37	136	8	181	14	80	33	127	15	57	17	89	27	**46**	22	95	492
Total Volume	174	510	28	712	53	382	182	617	62	253	74	389	98	160	89	347	2065
% App. Total	24.4	71.6	3.9		8.6	61.9	29.5		15.9	65	19		28.2	46.1	25.6		
PHF	.888	.898	.538	.918	.883	.823	.669	.791	.775	.878	.712	.963	.875	.870	.718	.913	.910



MARKS TRAFFIC DATA

STANISLAUS COUNTY

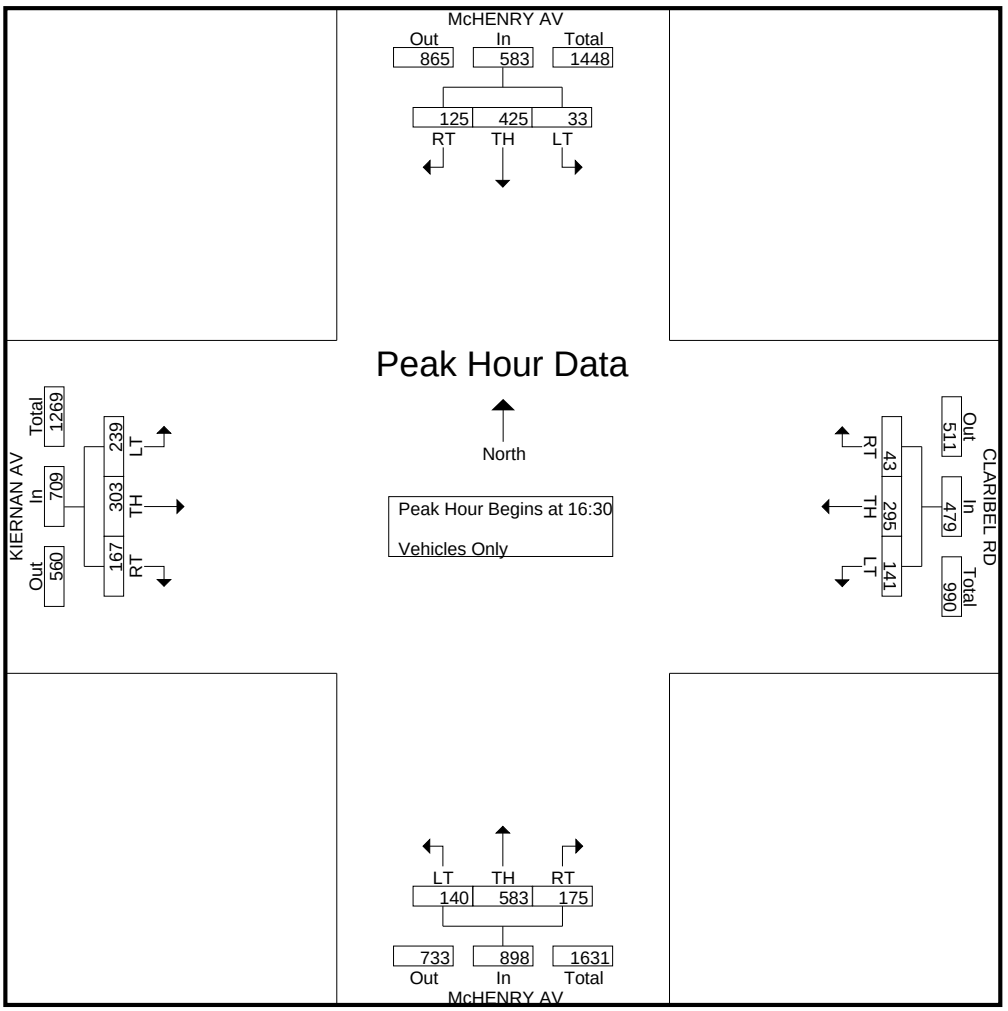
fp
Mietek 916-806-0250

File Name : mchenry-claribel-p
Site Code : 3
Start Date : 8/18/2010
Page No : 1

Groups Printed- Vehicles Only

	McHENRY AV Southbound				CLARIBEL RD Westbound				McHENRY AV Northbound				KIERNAN AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	28	110	9	147	15	83	42	140	44	116	30	190	43	81	53	177	654
16:15	30	116	8	154	10	74	30	114	43	106	41	190	37	71	46	154	612
16:30	23	114	12	149	9	74	50	133	44	137	51	232	36	74	45	155	669
16:45	40	108	8	156	12	77	25	114	41	123	26	190	52	74	60	186	646
Total	121	448	37	606	46	308	147	501	172	482	148	802	168	300	204	672	2581
17:00	29	123	8	160	6	74	38	118	41	151	36	228	44	79	63	186	692
17:15	33	80	5	118	16	70	28	114	49	172	27	248	35	76	71	182	662
17:30	35	97	2	134	9	66	32	107	52	152	36	240	57	74	53	184	665
17:45	24	108	8	140	16	63	33	112	45	97	24	166	30	71	39	140	558
Total	121	408	23	552	47	273	131	451	187	572	123	882	166	300	226	692	2577
Grand Total	242	856	60	1158	93	581	278	952	359	1054	271	1684	334	600	430	1364	5158
Apprch %	20.9	73.9	5.2		9.8	61	29.2		21.3	62.6	16.1		24.5	44	31.5		
Total %	4.7	16.6	1.2	22.5	1.8	11.3	5.4	18.5	7	20.4	5.3	32.6	6.5	11.6	8.3	26.4	

	McHENRY AV Southbound				CLARIBEL RD Westbound				McHENRY AV Northbound				KIERNAN AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	23	114	**12**	149	9	74	**50**	**133**	44	137	**51**	232	36	74	45	155	669
16:45	**40**	108	8	156	12	**77**	25	114	41	123	26	190	**52**	74	60	**186**	646
17:00	29	**123**	8	**160**	6	74	38	118	41	151	36	228	44	**79**	63	186	**692**
17:15	33	80	5	118	**16**	70	28	114	**49**	**172**	27	**248**	35	76	**71**	182	662
Total Volume	125	425	33	583	43	295	141	479	175	583	140	898	167	303	239	709	2669
% App. Total	21.4	72.9	5.7		9	61.6	29.4		19.5	64.9	15.6		23.6	42.7	33.7		
PHF	.781	.864	.688	.911	.672	.958	.705	.900	.893	.847	.686	.905	.803	.959	.842	.953	.964



MARKS TRAFFIC DATA

STANISLAUS COUNTY

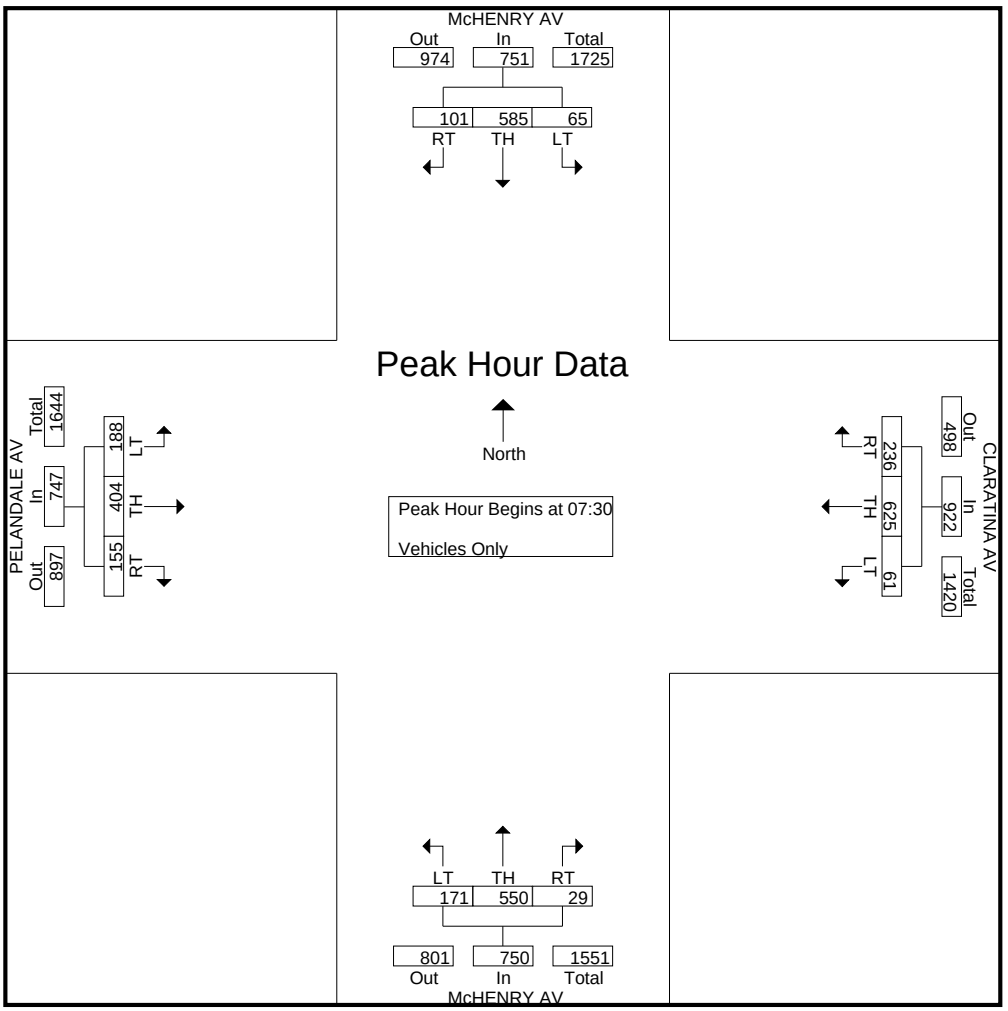
fp
Mietek 916-806-0250

File Name : mchenry-claratina-a
Site Code : 4
Start Date : 8/17/2010
Page No : 1

Groups Printed- Vehicles Only

	McHENRY AV Southbound				CLARATINA AV Westbound				McHENRY AV Northbound				PELANDALE AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	14	78	17	109	31	119	7	157	1	80	19	100	19	44	22	85	451
07:15	18	100	17	135	51	131	6	188	7	94	39	140	17	79	36	132	595
07:30	14	117	14	145	46	160	9	215	8	127	50	185	34	128	42	204	749
07:45	29	169	19	217	70	172	24	266	8	167	53	228	54	114	56	224	935
Total	75	464	67	606	198	582	46	826	24	468	161	653	124	365	156	645	2730
08:00	27	142	9	178	69	154	11	234	7	135	42	184	38	88	50	176	772
08:15	31	157	23	211	51	139	17	207	6	121	26	153	29	74	40	143	714
08:30	24	144	22	190	35	93	12	140	10	127	24	161	36	66	19	121	612
08:45	18	161	20	199	40	80	15	135	7	130	20	157	29	61	37	127	618
Total	100	604	74	778	195	466	55	716	30	513	112	655	132	289	146	567	2716
Grand Total	175	1068	141	1384	393	1048	101	1542	54	981	273	1308	256	654	302	1212	5446
Apprch %	12.6	77.2	10.2		25.5	68	6.5		4.1	75	20.9		21.1	54	24.9		
Total %	3.2	19.6	2.6	25.4	7.2	19.2	1.9	28.3	1	18	5	24	4.7	12	5.5	22.3	

	McHENRY AV Southbound				CLARATINA AV Westbound				McHENRY AV Northbound				PELANDALE AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	14	117	14	145	46	160	9	215	**8**	127	50	185	34	**128**	42	204	749
07:45	29	**169**	19	**217**	**70**	**172**	**24**	**266**	8	**167**	**53**	**228**	**54**	114	**56**	**224**	**935**
08:00	27	142	9	178	69	154	11	234	7	135	42	184	38	88	50	176	772
08:15	**31**	157	**23**	211	51	139	17	207	6	121	26	153	29	74	40	143	714
Total Volume	101	585	65	751	236	625	61	922	29	550	171	750	155	404	188	747	3170
% App. Total	13.4	77.9	8.7		25.6	67.8	6.6		3.9	73.3	22.8		20.7	54.1	25.2		
PHF	.815	.865	.707	.865	.843	.908	.635	.867	.906	.823	.807	.822	.718	.789	.839	.834	.848



MARKS TRAFFIC DATA

STANISLAUS COUNTY

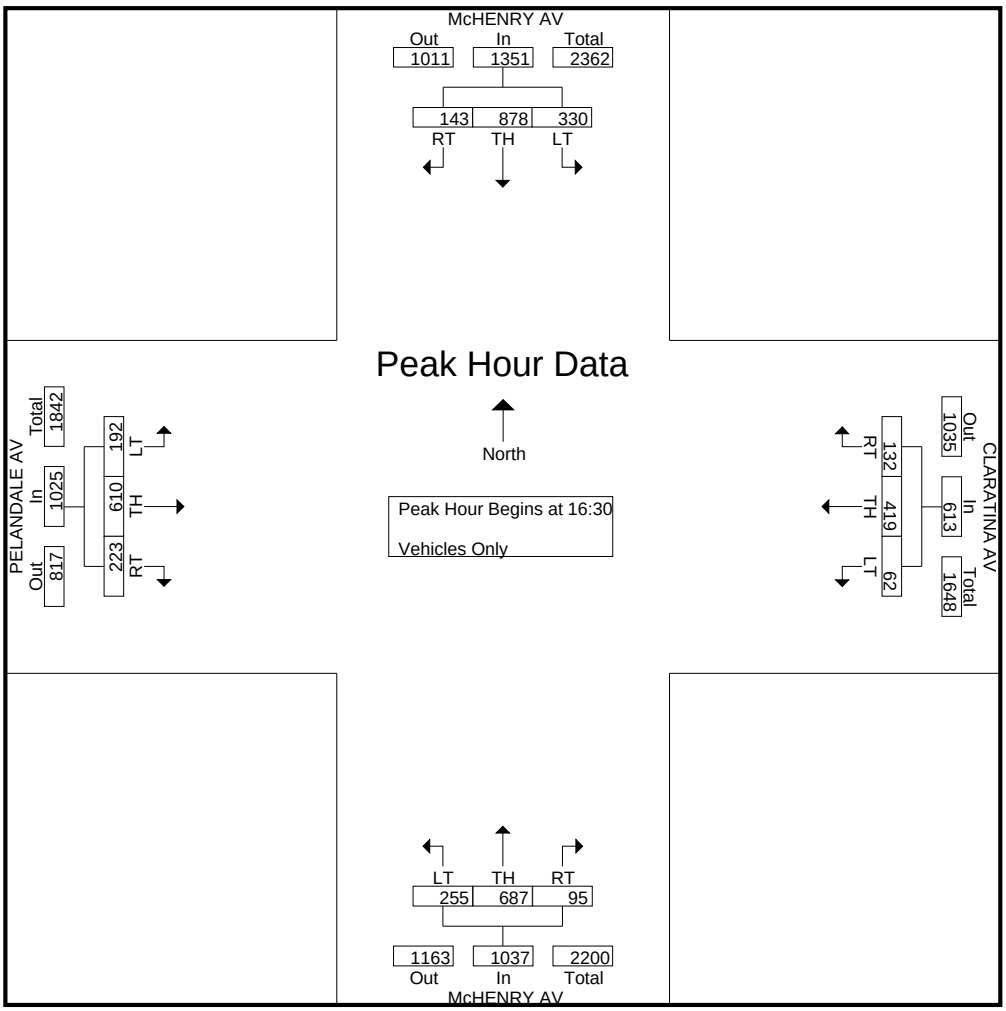
fp
Mietek 916-806-0250

File Name : mchenry-claratina-p
Site Code : 4
Start Date : 8/17/2010
Page No : 1

Groups Printed- Vehicles Only

	McHENRY AV Southbound				CLARATINA AV Westbound				McHENRY AV Northbound				PELANDALE AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	36	234	64	334	30	82	11	123	20	177	48	245	55	120	38	213	915
16:15	56	152	59	267	37	70	12	119	20	188	63	271	54	134	45	233	890
16:30	49	249	88	386	35	87	13	135	25	146	52	223	55	128	43	226	970
16:45	24	165	49	238	34	108	12	154	17	181	62	260	40	162	45	247	899
Total	165	800	260	1225	136	347	48	531	82	692	225	999	204	544	171	919	3674
17:00	44	266	113	423	32	97	20	149	27	172	73	272	70	149	47	266	1110
17:15	26	198	80	304	31	127	17	175	26	188	68	282	58	171	57	286	1047
17:30	40	203	87	330	25	109	18	152	25	167	47	239	68	136	28	232	953
17:45	28	146	48	222	28	122	14	164	31	151	66	248	62	163	39	264	898
Total	138	813	328	1279	116	455	69	640	109	678	254	1041	258	619	171	1048	4008
Grand Total	303	1613	588	2504	252	802	117	1171	191	1370	479	2040	462	1163	342	1967	7682
Apprch %	12.1	64.4	23.5		21.5	68.5	10		9.4	67.2	23.5		23.5	59.1	17.4		
Total %	3.9	21	7.7	32.6	3.3	10.4	1.5	15.2	2.5	17.8	6.2	26.6	6	15.1	4.5	25.6	

	McHENRY AV Southbound				CLARATINA AV Westbound				McHENRY AV Northbound				PELANDALE AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	**49**	249	88	386	**35**	87	13	135	25	146	52	223	55	128	43	226	970
16:45	24	165	49	238	34	108	12	154	17	181	62	260	40	162	45	247	899
17:00	44	**266**	**113**	**423**	32	97	**20**	149	**27**	172	**73**	272	**70**	149	47	266	**1110**
17:15	26	198	80	304	31	**127**	17	**175**	26	**188**	68	**282**	58	**171**	**57**	**286**	1047
Total Volume	143	878	330	1351	132	419	62	613	95	687	255	1037	223	610	192	1025	4026
% App. Total	10.6	65	24.4		21.5	68.4	10.1		9.2	66.2	24.6		21.8	59.5	18.7		
PHF	.730	.825	.730	.798	.943	.825	.775	.876	.880	.914	.873	.919	.796	.892	.842	.896	.907



MARKS TRAFFIC DATA

STANISLAUS COUNTY

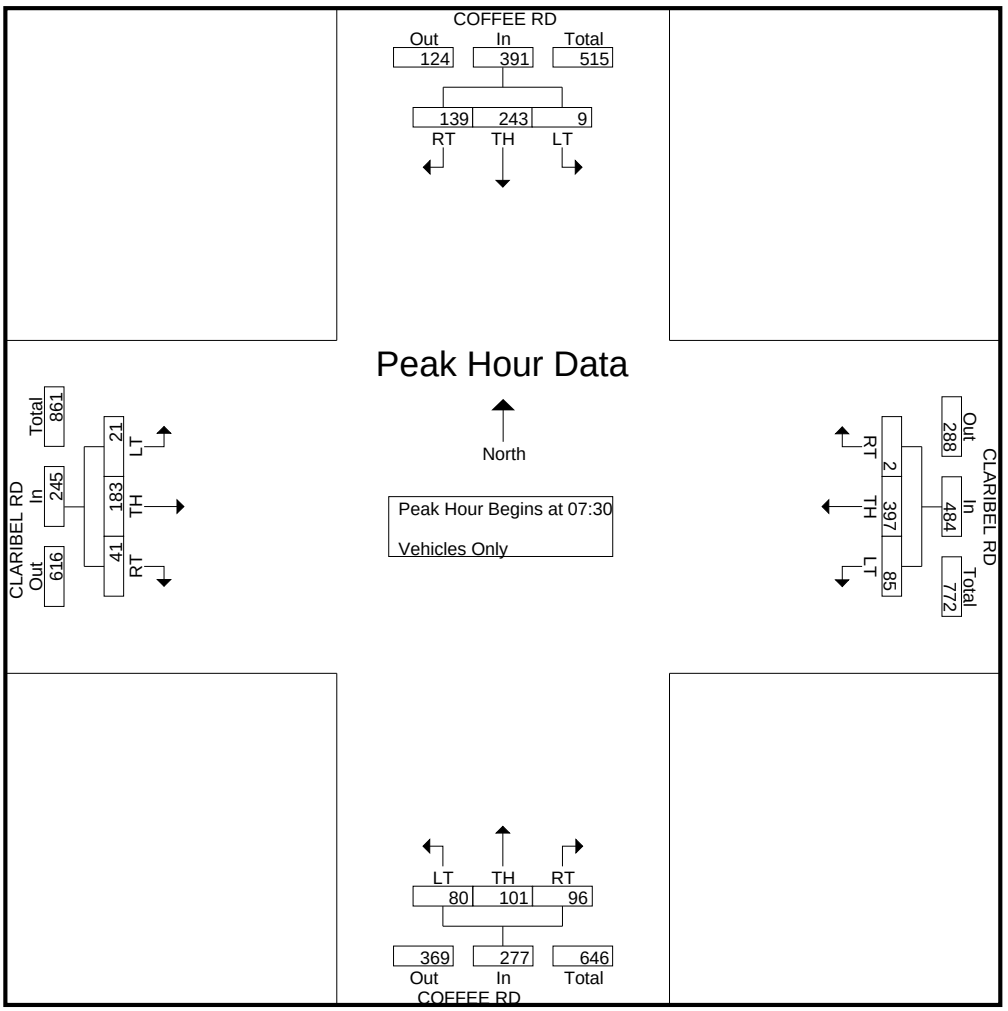
fp
Mietek 916-806-0250

File Name : coffee-claribel-a
Site Code : 5
Start Date : 8/18/2010
Page No : 1

Groups Printed- Vehicles Only

	COFFEE RD Southbound				CLARIBEL RD Westbound				COFFEE RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	13	38	2	53	0	57	12	69	16	19	9	44	9	37	3	49	215
07:15	20	53	2	75	1	91	15	107	14	21	23	58	7	41	2	50	290
07:30	36	78	4	118	0	91	24	115	18	18	30	66	9	40	6	55	354
07:45	58	70	0	128	1	116	22	139	25	34	20	79	7	44	4	55	401
Total	127	239	8	374	2	355	73	430	73	92	82	247	32	162	15	209	1260
08:00	25	51	3	79	0	102	20	122	27	25	17	69	13	47	7	67	337
08:15	20	44	2	66	1	88	19	108	26	24	13	63	12	52	4	68	305
08:30	19	44	3	66	1	79	38	118	20	22	11	53	11	52	6	69	306
08:45	15	47	1	63	1	72	18	91	17	26	16	59	19	50	6	75	288
Total	79	186	9	274	3	341	95	439	90	97	57	244	55	201	23	279	1236
Grand Total	206	425	17	648	5	696	168	869	163	189	139	491	87	363	38	488	2496
Apprch %	31.8	65.6	2.6		0.6	80.1	19.3		33.2	38.5	28.3		17.8	74.4	7.8		
Total %	8.3	17	0.7	26	0.2	27.9	6.7	34.8	6.5	7.6	5.6	19.7	3.5	14.5	1.5	19.6	

	COFFEE RD Southbound				CLARIBEL RD Westbound				COFFEE RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	36	**78**	**4**	118	0	91	**24**	115	18	18	**30**	66	9	40	6	55	354
07:45	**58**	70	0	**128**	**1**	**116**	22	**139**	25	**34**	20	**79**	7	44	4	55	**401**
08:00	25	51	3	79	0	102	20	122	**27**	25	17	69	**13**	47	**7**	67	337
08:15	20	44	2	66	1	88	19	108	26	24	13	63	12	**52**	4	**68**	305
Total Volume	139	243	9	391	2	397	85	484	96	101	80	277	41	183	21	245	1397
% App. Total	35.5	62.1	2.3		0.4	82	17.6		34.7	36.5	28.9		16.7	74.7	8.6		
PHF	.599	.779	.563	.764	.500	.856	.885	.871	.889	.743	.667	.877	.788	.880	.750	.901	.871



MARKS TRAFFIC DATA

STANISLAUS COUNTY

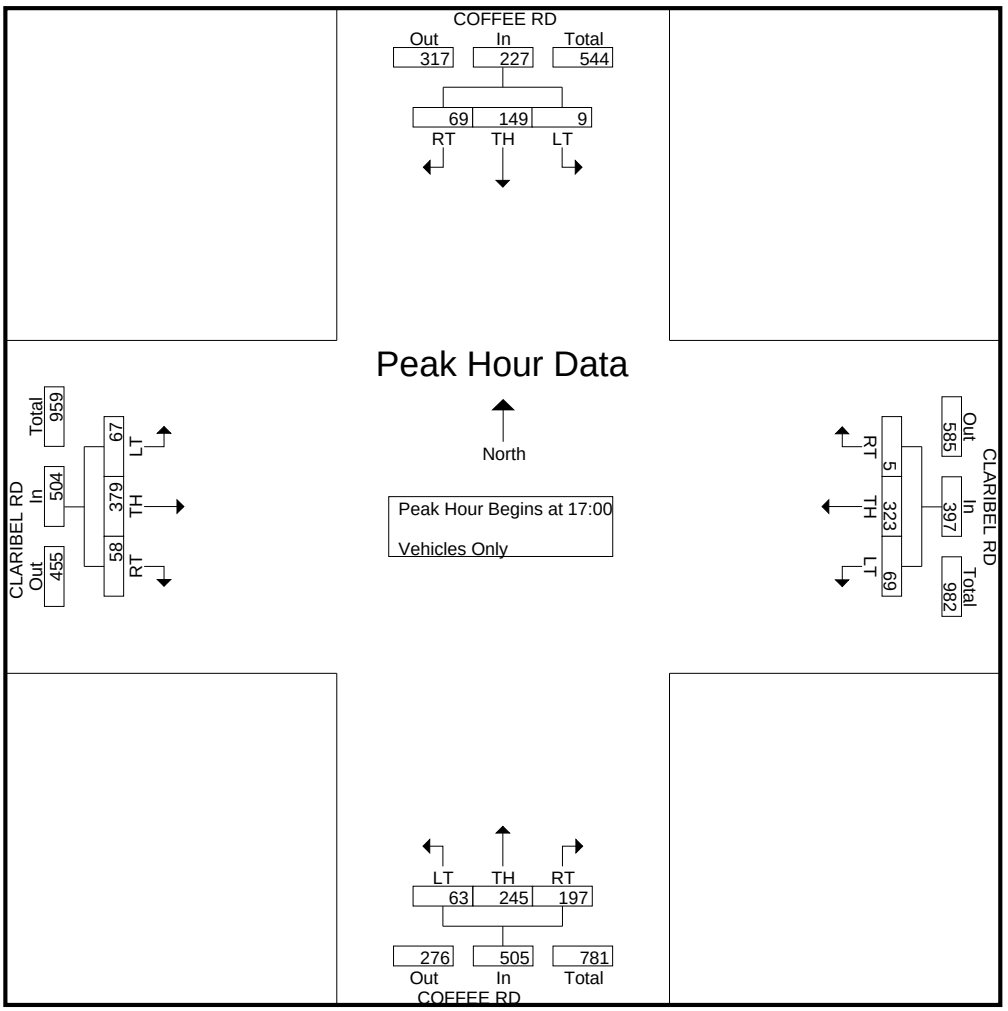
fp
Mietek 916-806-0250

File Name : coffee-claribel-p
Site Code : 5
Start Date : 8/18/2010
Page No : 1

Groups Printed- Vehicles Only

	COFFEE RD Southbound				CLARIBEL RD Westbound				COFFEE RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	8	27	2	37	0	92	19	111	35	44	17	96	10	100	11	121	365
16:15	8	27	3	38	2	91	17	110	42	43	16	101	13	100	17	130	379
16:30	17	27	3	47	2	91	14	107	34	51	12	97	15	108	9	132	383
16:45	12	30	1	43	0	82	19	101	58	58	18	134	13	101	9	123	401
Total	45	111	9	165	4	356	69	429	169	196	63	428	51	409	46	506	1528
17:00	15	44	2	61	1	80	15	96	44	60	22	126	10	81	23	114	397
17:15	17	27	1	45	1	75	18	94	53	65	17	135	17	101	12	130	404
17:30	20	45	4	69	1	83	20	104	49	66	13	128	16	93	14	123	424
17:45	17	33	2	52	2	85	16	103	51	54	11	116	15	104	18	137	408
Total	69	149	9	227	5	323	69	397	197	245	63	505	58	379	67	504	1633
Grand Total	114	260	18	392	9	679	138	826	366	441	126	933	109	788	113	1010	3161
Apprch %	29.1	66.3	4.6		1.1	82.2	16.7		39.2	47.3	13.5		10.8	78	11.2		
Total %	3.6	8.2	0.6	12.4	0.3	21.5	4.4	26.1	11.6	14	4	29.5	3.4	24.9	3.6	32	

	COFFEE RD Southbound				CLARIBEL RD Westbound				COFFEE RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	15	44	2	61	1	80	15	96	44	60	**22**	126	10	81	**23**	114	397
17:15	17	27	1	45	1	75	18	94	**53**	65	17	**135**	**17**	101	12	130	404
17:30	**20**	**45**	**4**	**69**	1	83	**20**	**104**	49	**66**	13	128	16	93	14	123	**424**
17:45	17	33	2	52	**2**	**85**	16	103	51	54	11	116	15	**104**	18	**137**	408
Total Volume	69	149	9	227	5	323	69	397	197	245	63	505	58	379	67	504	1633
% App. Total	30.4	65.6	4		1.3	81.4	17.4		39	48.5	12.5		11.5	75.2	13.3		
PHF	.863	.828	.563	.822	.625	.950	.863	.954	.929	.928	.716	.935	.853	.911	.728	.920	.963



MARKS TRAFFIC DATA

STANISLAUS COUNTY

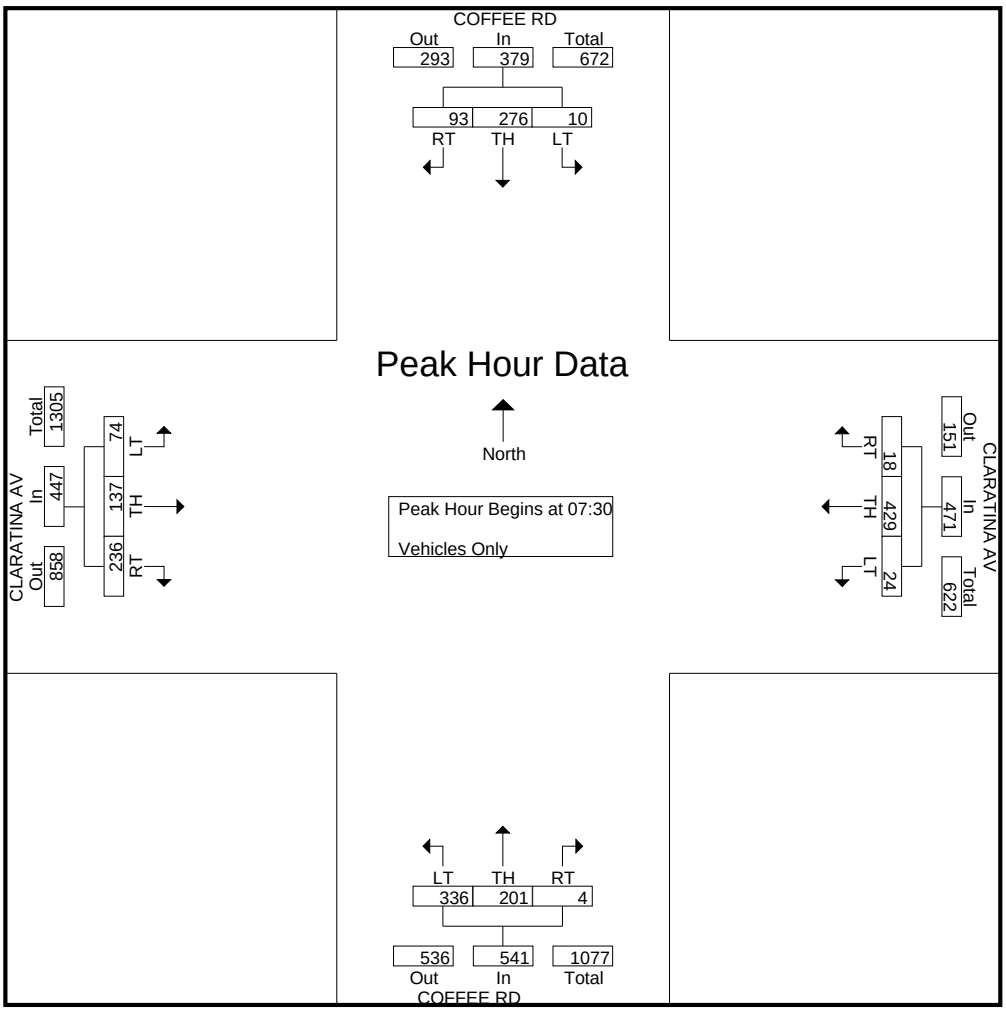
fp
Mietek 916-806-0250

File Name : coffee-claratina-a
Site Code : 6
Start Date : 8/18/2010
Page No : 1

Groups Printed- Vehicles Only

	COFFEE RD Southbound				CLARATINA AV Westbound				COFFEE RD Northbound				CLARATINA AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	12	42	1	55	2	84	1	87	1	30	49	80	29	28	13	70	292
07:15	19	56	3	78	3	80	3	86	2	44	69	115	37	39	11	87	366
07:30	30	71	3	104	10	112	7	129	0	41	81	122	37	32	16	85	440
07:45	29	70	4	103	3	120	7	130	0	66	101	167	72	32	17	121	521
Total	90	239	11	340	18	396	18	432	3	181	300	484	175	131	57	363	1619
08:00	18	62	2	82	1	110	4	115	0	51	82	133	59	31	19	109	439
08:15	16	73	1	90	4	87	6	97	4	43	72	119	68	42	22	132	438
08:30	27	65	0	92	4	73	3	80	0	38	60	98	87	37	13	137	407
08:45	22	71	2	95	5	62	4	71	0	53	79	132	61	41	19	121	419
Total	83	271	5	359	14	332	17	363	4	185	293	482	275	151	73	499	1703
Grand Total	173	510	16	699	32	728	35	795	7	366	593	966	450	282	130	862	3322
Apprch %	24.7	73	2.3		4	91.6	4.4		0.7	37.9	61.4		52.2	32.7	15.1		
Total %	5.2	15.4	0.5	21	1	21.9	1.1	23.9	0.2	11	17.9	29.1	13.5	8.5	3.9	25.9	

	COFFEE RD Southbound				CLARATINA AV Westbound				COFFEE RD Northbound				CLARATINA AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	**30**	71	3	**104**	**10**	112	**7**	129	0	41	81	122	37	32	16	85	440
07:45	29	70	**4**	103	3	**120**	7	**130**	0	**66**	**101**	**167**	**72**	32	17	121	**521**
08:00	18	62	2	82	1	110	4	115	0	51	82	133	59	31	19	109	439
08:15	16	**73**	1	90	4	87	6	97	**4**	43	72	119	68	**42**	**22**	**132**	438
Total Volume	93	276	10	379	18	429	24	471	4	201	336	541	236	137	74	447	1838
% App. Total	24.5	72.8	2.6		3.8	91.1	5.1		0.7	37.2	62.1		52.8	30.6	16.6		
PHF	.775	.945	.625	.911	.450	.894	.857	.906	.250	.761	.832	.810	.819	.815	.841	.847	.882



MARKS TRAFFIC DATA

STANISLAUS COUNTY

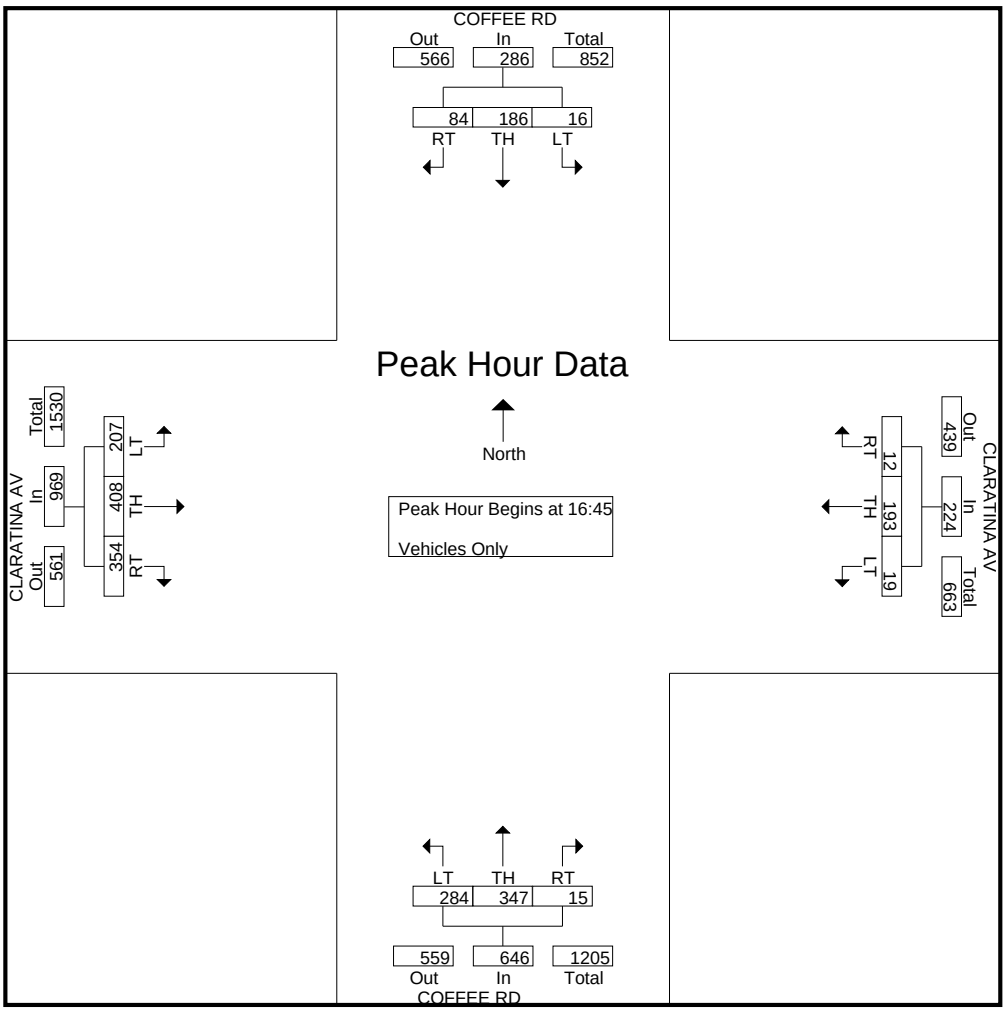
fp
Mietek 916-806-0250

File Name : coffee-claratina-p
Site Code : 6
Start Date : 8/18/2010
Page No : 1

Groups Printed- Vehicles Only

	COFFEE RD Southbound				CLARATINA AV Westbound				COFFEE RD Northbound				CLARATINA AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	19	43	2	64	2	49	0	51	2	65	53	120	85	81	36	202	437
16:15	11	37	1	49	2	37	3	42	3	68	79	150	96	73	40	209	450
16:30	12	47	5	64	2	52	8	62	6	73	59	138	91	90	27	208	472
16:45	15	42	2	59	3	43	6	52	4	84	86	174	83	90	63	236	521
Total	57	169	10	236	9	181	17	207	15	290	277	582	355	334	166	855	1880
17:00	19	46	9	74	5	42	5	52	5	84	65	154	82	124	45	251	531
17:15	19	48	2	69	3	51	2	56	2	87	60	149	97	102	55	254	528
17:30	31	50	3	84	1	57	6	64	4	92	73	169	92	92	44	228	545
17:45	16	57	2	75	4	52	2	58	1	70	77	148	84	89	46	219	500
Total	85	201	16	302	13	202	15	230	12	333	275	620	355	407	190	952	2104
Grand Total	142	370	26	538	22	383	32	437	27	623	552	1202	710	741	356	1807	3984
Apprch %	26.4	68.8	4.8		5	87.6	7.3		2.2	51.8	45.9		39.3	41	19.7		
Total %	3.6	9.3	0.7	13.5	0.6	9.6	0.8	11	0.7	15.6	13.9	30.2	17.8	18.6	8.9	45.4	

	COFFEE RD Southbound				CLARATINA AV Westbound				COFFEE RD Northbound				CLARATINA AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	15	42	2	59	3	43	**6**	52	4	84	**86**	**174**	83	90	**63**	236	521
17:00	19	46	**9**	74	**5**	42	5	52	**5**	84	65	154	82	**124**	45	251	531
17:15	19	48	2	69	3	51	2	56	2	87	60	149	**97**	102	55	**254**	528
17:30	**31**	**50**	3	**84**	1	**57**	6	**64**	4	**92**	73	169	92	92	44	228	**545**
Total Volume	84	186	16	286	12	193	19	224	15	347	284	646	354	408	207	969	2125
% App. Total	29.4	65	5.6		5.4	86.2	8.5		2.3	53.7	44		36.5	42.1	21.4		
PHF	.677	.930	.444	.851	.600	.846	.792	.875	.750	.943	.826	.928	.912	.823	.821	.954	.975



MARKS TRAFFIC DATA

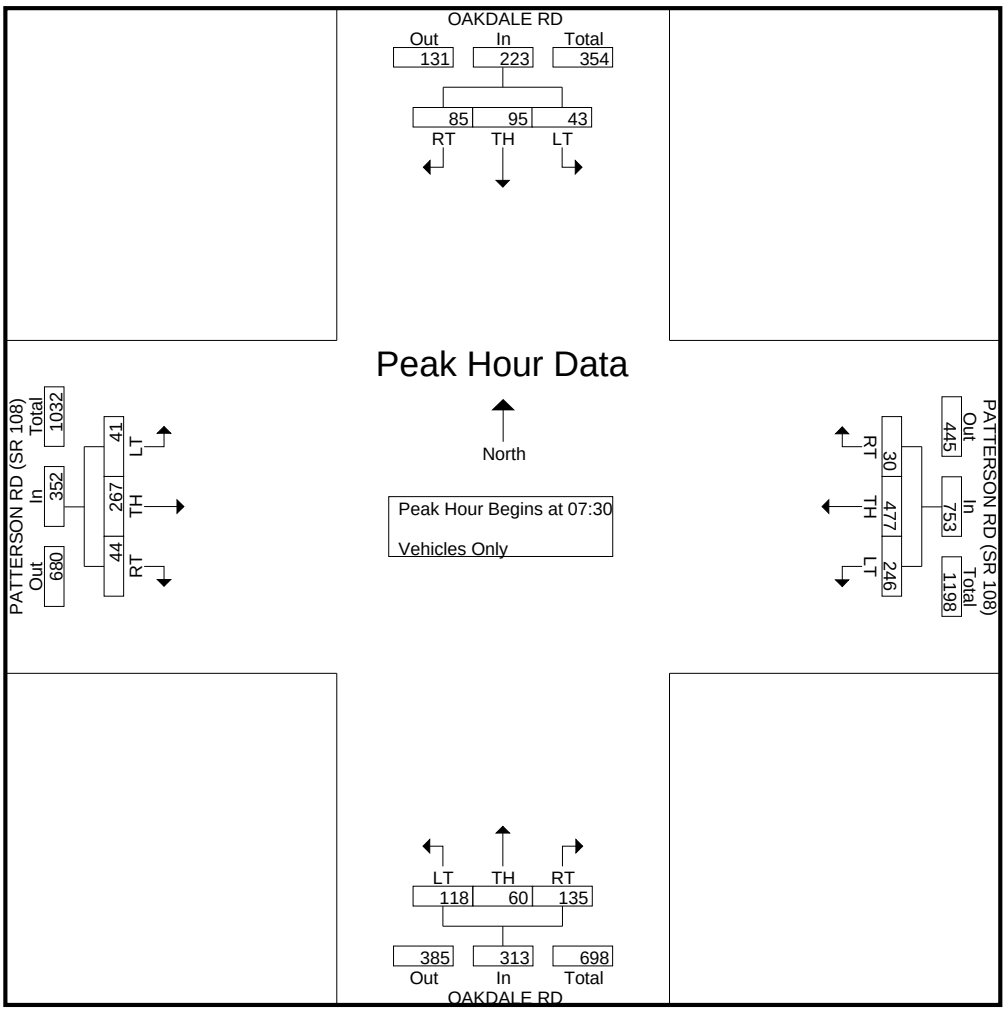
STANISLAUS COUNTY
City of Riverbank
fp
Mietek 916-806-0250

File Name : oakdale-108-a
Site Code : 7
Start Date : 8/17/2010
Page No : 1

Groups Printed- Vehicles Only

	OAKDALE RD Southbound				PATTERSON RD (SR 108) Westbound				OAKDALE RD Northbound				PATTERSON RD (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	21	6	14	41	10	80	29	119	19	9	29	57	10	36	8	54	271
07:15	23	25	8	56	5	127	44	176	34	6	26	66	7	47	7	61	359
07:30	23	29	13	65	5	134	60	199	30	17	31	78	13	65	12	90	432
07:45	22	22	13	57	11	131	59	201	40	14	26	80	11	86	9	106	444
Total	89	82	48	219	31	472	192	695	123	46	112	281	41	234	36	311	1506
08:00	27	23	10	60	7	111	70	188	35	15	29	79	7	57	6	70	397
08:15	13	21	7	41	7	101	57	165	30	14	32	76	13	59	14	86	368
08:30	13	16	12	41	8	79	55	142	27	19	31	77	8	56	10	74	334
08:45	19	23	12	54	6	70	64	140	42	18	21	81	9	61	5	75	350
Total	72	83	41	196	28	361	246	635	134	66	113	313	37	233	35	305	1449
Grand Total	161	165	89	415	59	833	438	1330	257	112	225	594	78	467	71	616	2955
Apprch %	38.8	39.8	21.4		4.4	62.6	32.9		43.3	18.9	37.9		12.7	75.8	11.5		
Total %	5.4	5.6	3	14	2	28.2	14.8	45	8.7	3.8	7.6	20.1	2.6	15.8	2.4	20.8	

	OAKDALE RD Southbound				PATTERSON RD (SR 108) Westbound				OAKDALE RD Northbound				PATTERSON RD (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	23	**29**	**13**	**65**	5	**134**	60	199	30	**17**	31	78	**13**	65	12	90	432
07:45	22	22	13	57	**11**	131	59	**201**	**40**	14	26	**80**	11	**86**	9	**106**	**444**
08:00	**27**	23	10	60	7	111	**70**	188	35	15	29	79	7	57	6	70	397
08:15	13	21	7	41	7	101	57	165	30	14	**32**	76	13	59	**14**	86	368
Total Volume	85	95	43	223	30	477	246	753	135	60	118	313	44	267	41	352	1641
% App. Total	38.1	42.6	19.3		4	63.3	32.7		43.1	19.2	37.7		12.5	75.9	11.6		
PHF	.787	.819	.827	.858	.682	.890	.879	.937	.844	.882	.922	.978	.846	.776	.732	.830	.924



MARKS TRAFFIC DATA

STANISLAUS COUNTY
City of Riverbank
fp
Mietek 916-806-0250

File Name : oakdale-108-p
Site Code : 7
Start Date : 8/17/2010
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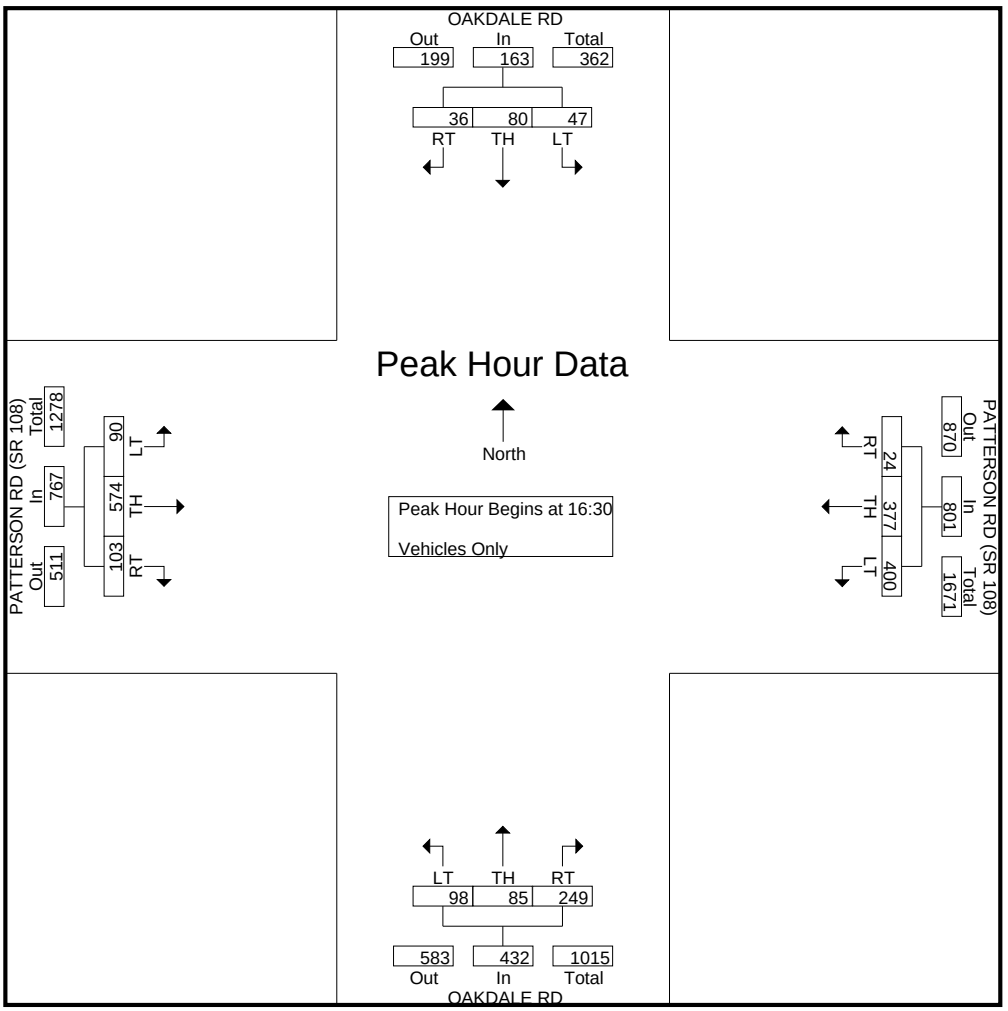
Groups Printed- Vehicles Only

	OAKDALE RD Southbound				PATTERSON RD (SR 108) Westbound				OAKDALE RD Northbound				PATTERSON RD (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	4	24	12	40	2	74	85	161	67	27	30	124	18	131	23	172	497
16:15	6	14	14	34	5	73	64	142	55	24	20	99	35	142	23	200	475
16:30	2	27	18	47	7	98	118	223	57	20	21	98	27	123	19	169	537
16:45	8	18	7	33	6	102	100	208	68	31	23	122	22	153	35	210	573
Total	20	83	51	154	20	347	367	734	247	102	94	443	102	549	100	751	2082
17:00	13	19	7	39	5	83	92	180	70	18	25	113	24	140	20	184	516
17:15	13	16	15	44	6	94	90	190	54	16	29	99	30	158	16	204	537
17:30	12	16	11	39	5	78	84	167	49	17	26	92	34	117	12	163	461
17:45	8	18	8	34	6	67	73	146	44	21	18	83	29	151	21	201	464
Total	46	69	41	156	22	322	339	683	217	72	98	387	117	566	69	752	1978
Grand Total	66	152	92	310	42	669	706	1417	464	174	192	830	219	1115	169	1503	4060
Apprch %	21.3	49	29.7		3	47.2	49.8		55.9	21	23.1		14.6	74.2	11.2		
Total %	1.6	3.7	2.3	7.6	1	16.5	17.4	34.9	11.4	4.3	4.7	20.4	5.4	27.5	4.2	37	

	OAKDALE RD Southbound				PATTERSON RD (SR 108) Westbound				OAKDALE RD Northbound				PATTERSON RD (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	2	**27**	**18**	**47**	**7**	98	**118**	**223**	57	20	21	98	27	123	19	169	537
16:45	8	18	7	33	6	**102**	100	208	68	**31**	23	**122**	22	153	**35**	**210**	**573**
17:00	**13**	19	7	39	5	83	92	180	**70**	18	25	113	24	140	20	184	516
17:15	13	16	15	44	6	94	90	190	54	16	**29**	99	**30**	**158**	16	204	537
Total Volume	36	80	47	163	24	377	400	801	249	85	98	432	103	574	90	767	2163
% App. Total	22.1	49.1	28.8		3	47.1	49.9		57.6	19.7	22.7		13.4	74.8	11.7		
PHF	.692	.741	.653	.867	.857	.924	.847	.898	.889	.685	.845	.885	.858	.908	.643	.913	.944



MARKS TRAFFIC DATA

STANISLAUS COUNTY

fp
Mietek 916-806-0250

File Name : oakdale-claribel-a
Site Code : 8
Start Date : 8/19/2010
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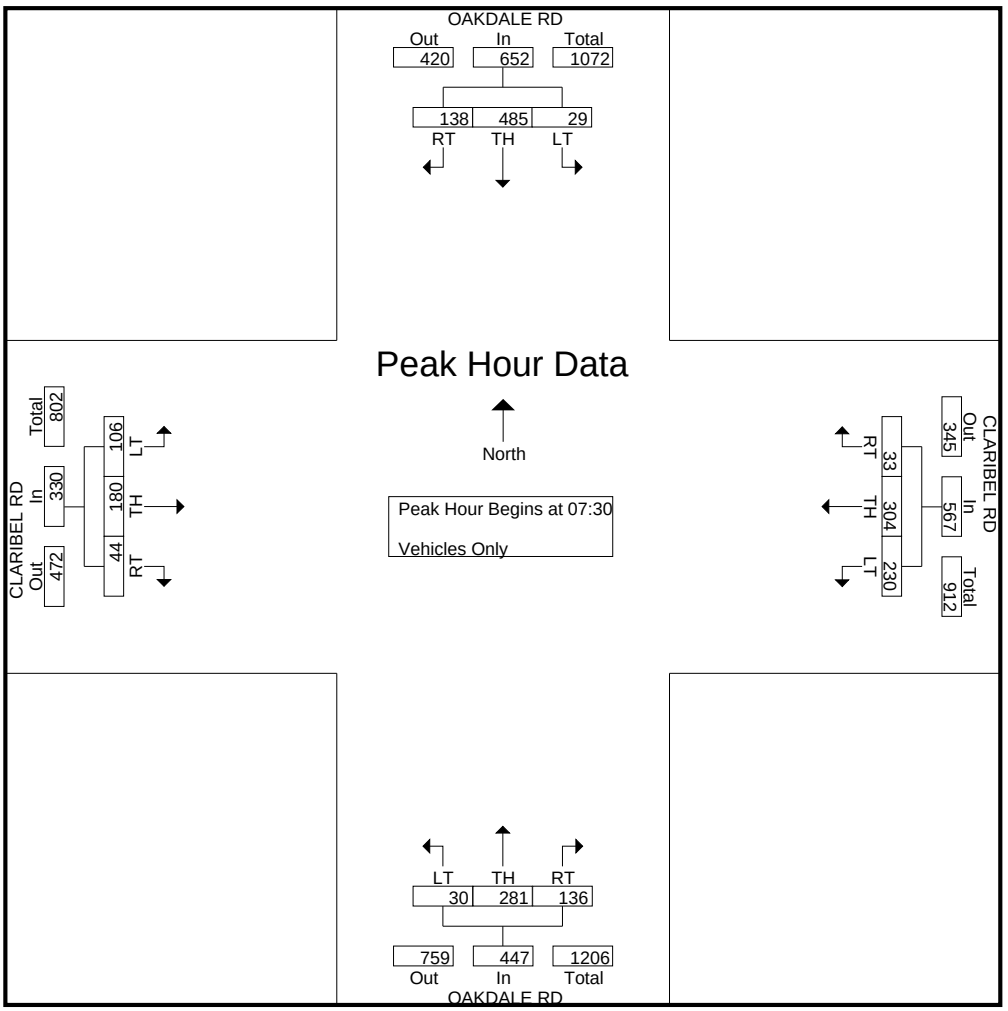
Groups Printed- Vehicles Only

	OAKDALE RD Southbound				CLARIBEL RD Westbound				OAKDALE RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	29	90	7	126	10	47	29	86	15	37	10	62	6	31	10	47	321
07:15	28	83	7	118	5	84	38	127	18	39	7	64	6	34	13	53	362
07:30	56	170	12	238	7	83	68	158	24	50	2	76	12	45	23	80	552
07:45	23	136	7	166	9	93	66	168	38	86	10	134	10	49	27	86	554
Total	136	479	33	648	31	307	201	539	95	212	29	336	34	159	73	266	1789
08:00	29	90	5	124	9	73	50	132	43	80	9	132	12	49	27	88	476
08:15	30	89	5	124	8	55	46	109	31	65	9	105	10	37	29	76	414
08:30	36	84	7	127	7	63	40	110	22	46	11	79	7	42	33	82	398
08:45	31	72	2	105	12	66	36	114	41	75	7	123	3	54	17	74	416
Total	126	335	19	480	36	257	172	465	137	266	36	439	32	182	106	320	1704
Grand Total	262	814	52	1128	67	564	373	1004	232	478	65	775	66	341	179	586	3493
Apprch %	23.2	72.2	4.6		6.7	56.2	37.2		29.9	61.7	8.4		11.3	58.2	30.5		
Total %	7.5	23.3	1.5	32.3	1.9	16.1	10.7	28.7	6.6	13.7	1.9	22.2	1.9	9.8	5.1	16.8	

	OAKDALE RD Southbound				CLARIBEL RD Westbound				OAKDALE RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	**56**	**170**	**12**	**238**	7	83	**68**	158	24	50	2	76	**12**	45	23	80	552
07:45	23	136	7	166	**9**	**93**	66	**168**	38	**86**	**10**	**134**	10	**49**	27	86	**554**
08:00	29	90	5	124	9	73	50	132	**43**	80	9	132	12	49	27	**88**	476
08:15	30	89	5	124	8	55	46	109	31	65	9	105	10	37	**29**	76	414
Total Volume	138	485	29	652	33	304	230	567	136	281	30	447	44	180	106	330	1996
% App. Total	21.2	74.4	4.4		5.8	53.6	40.6		30.4	62.9	6.7		13.3	54.5	32.1		
PHF	.616	.713	.604	.685	.917	.817	.846	.844	.791	.817	.750	.834	.917	.918	.914	.938	.901



MARKS TRAFFIC DATA

STANISLAUS COUNTY

fp
Mietek 916-806-0250

File Name : oakdale-claribel-p
Site Code : 8
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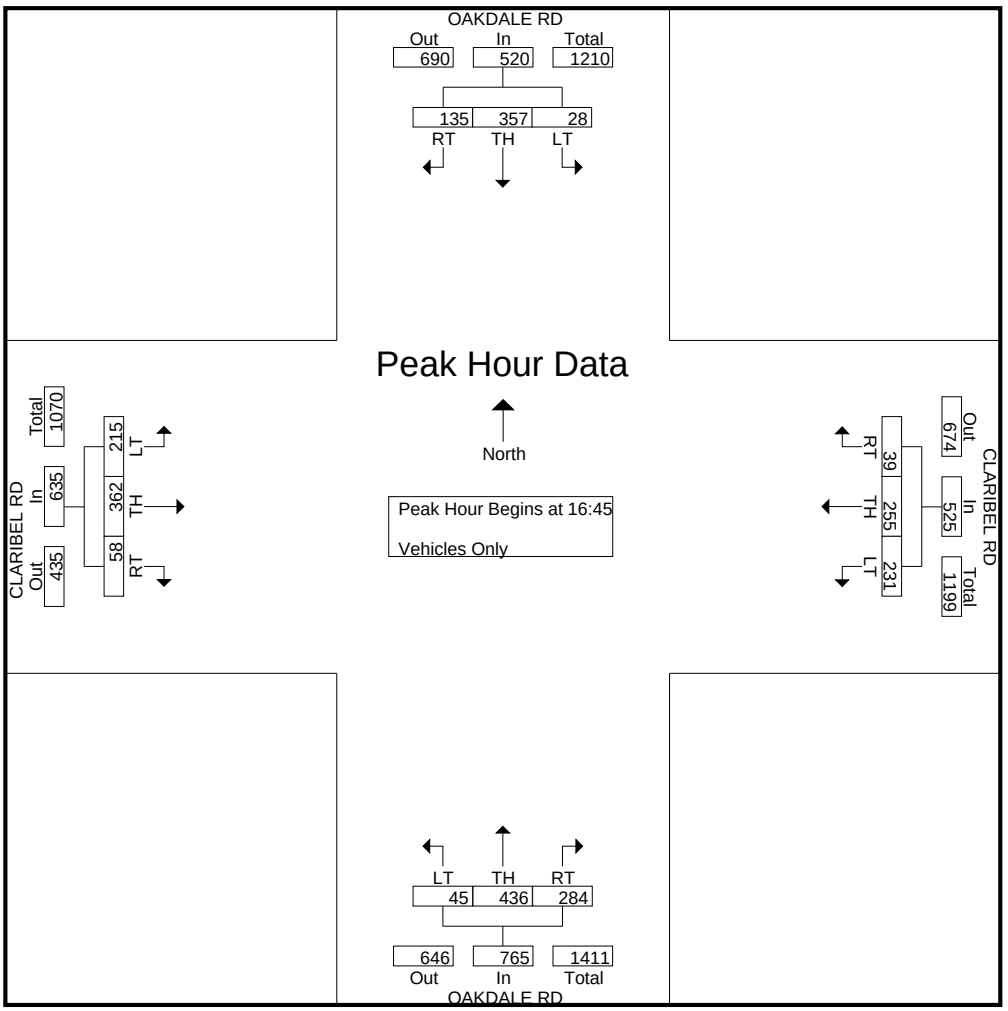
	OAKDALE RD Southbound				CLARIBEL RD Westbound				OAKDALE RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	41	72	8	121	2	70	63	135	57	92	11	160	16	75	39	130	546
16:15	22	66	3	91	20	85	73	178	49	97	7	153	15	85	55	155	577
16:30	32	88	2	122	5	60	71	136	54	114	8	176	15	94	57	166	600
16:45	33	96	7	136	11	76	43	130	58	95	14	167	14	91	48	153	586
Total	128	322	20	470	38	291	250	579	218	398	40	656	60	345	199	604	2309
17:00	29	93	7	129	6	61	57	124	76	121	11	208	10	95	51	156	617
17:15	39	90	6	135	10	54	70	134	80	111	7	198	11	93	54	158	625
17:30	34	78	8	120	12	64	61	137	70	109	13	192	23	83	62	168	617
17:45	26	81	4	111	5	61	54	120	79	126	6	211	13	75	47	135	577
Total	128	342	25	495	33	240	242	515	305	467	37	809	57	346	214	617	2436
Grand Total	256	664	45	965	71	531	492	1094	523	865	77	1465	117	691	413	1221	4745
Apprch %	26.5	68.8	4.7		6.5	48.5	45		35.7	59	5.3		9.6	56.6	33.8		
Total %	5.4	14	0.9	20.3	1.5	11.2	10.4	23.1	11	18.2	1.6	30.9	2.5	14.6	8.7	25.7	

	OAKDALE RD Southbound				CLARIBEL RD Westbound				OAKDALE RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	33	**96**	7	**136**	11	**76**	43	130	58	95	**14**	167	14	91	48	153	586
17:00	29	93	7	129	6	61	57	124	76	**121**	11	**208**	10	**95**	51	156	617
17:15	**39**	90	6	135	10	54	**70**	134	**80**	111	7	198	11	93	54	158	**625**
17:30	34	78	**8**	120	**12**	64	61	**137**	70	109	13	192	**23**	83	**62**	**168**	617
Total Volume	135	357	28	520	39	255	231	525	284	436	45	765	58	362	215	635	2445
% App. Total	26	68.7	5.4		7.4	48.6	44		37.1	57	5.9		9.1	57	33.9		
PHF	.865	.930	.875	.956	.813	.839	.825	.958	.888	.901	.804	.919	.630	.953	.867	.945	.978



MARKS TRAFFIC DATA

STANISLAUS COUNTY

fp
Mietek 916-806-0250

File Name : oakdale-claratina-a
Site Code : 9
Start Date : 8/18/2010
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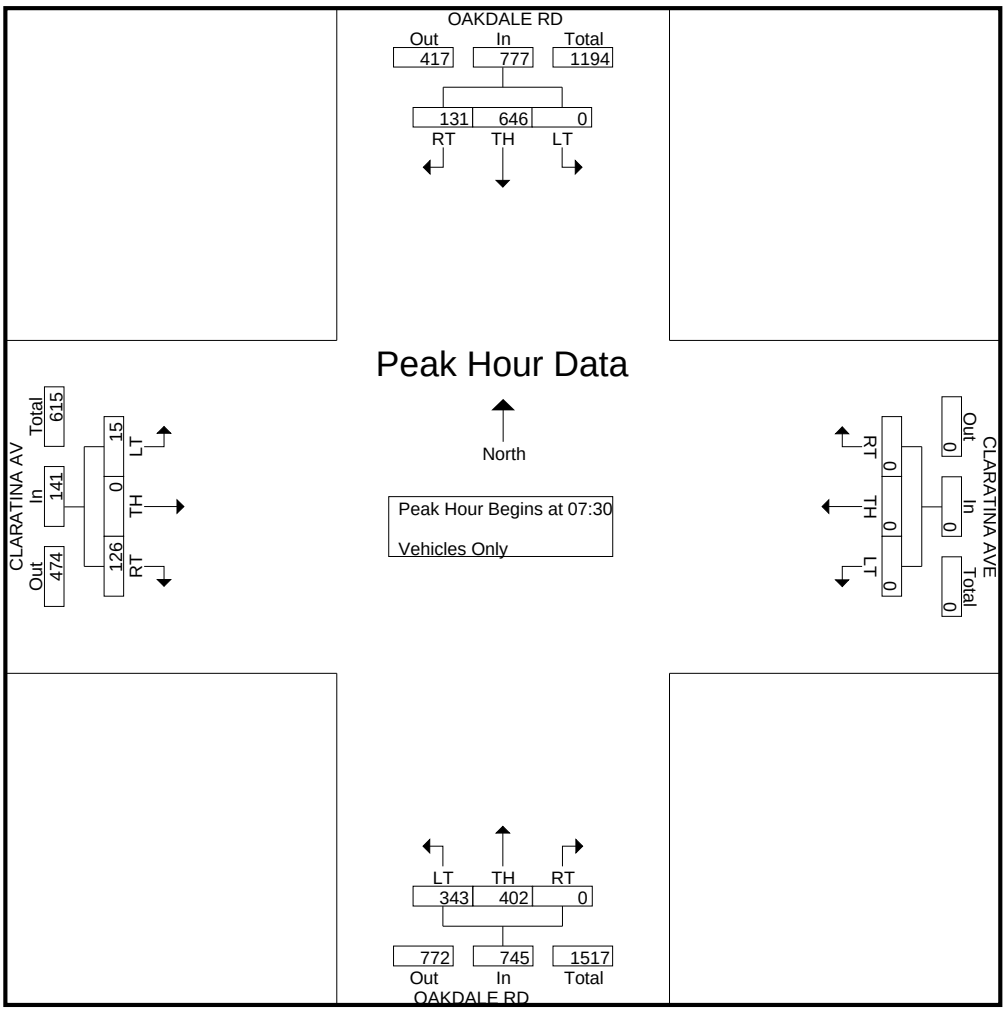
Groups Printed- Vehicles Only

	OAKDALE RD Southbound				CLARATINA AVE Westbound				OAKDALE RD Northbound				CLARATINA AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	7	104	0	111	0	0	0	0	0	44	74	118	22	0	3	25	254
07:15	20	99	0	119	0	0	0	0	0	59	84	143	45	0	3	48	310
07:30	31	216	0	247	0	0	0	0	0	84	90	174	26	0	0	26	447
07:45	48	166	0	214	0	0	0	0	0	112	96	208	37	0	2	39	461
Total	106	585	0	691	0	0	0	0	0	299	344	643	130	0	8	138	1472
08:00	28	135	0	163	0	0	0	0	0	101	84	185	31	0	1	32	380
08:15	24	129	0	153	0	0	0	0	0	105	73	178	32	0	12	44	375
08:30	13	145	0	158	0	0	0	0	0	101	58	159	40	0	1	41	358
08:45	11	120	0	131	0	0	0	0	0	120	63	183	38	0	4	42	356
Total	76	529	0	605	0	0	0	0	0	427	278	705	141	0	18	159	1469
Grand Total	182	1114	0	1296	0	0	0	0	0	726	622	1348	271	0	26	297	2941
Apprch %	14	86	0		0	0	0		0	53.9	46.1		91.2	0	8.8		
Total %	6.2	37.9	0	44.1	0	0	0	0	0	24.7	21.1	45.8	9.2	0	0.9	10.1	

	OAKDALE RD Southbound				CLARATINA AVE Westbound				OAKDALE RD Northbound				CLARATINA AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	31	**216**	0	**247**	0	0	0	0	0	84	90	174	26	0	0	26	447
07:45	**48**	166	0	214	0	0	0	0	0	**112**	**96**	**208**	**37**	0	2	39	**461**
08:00	28	135	0	163	0	0	0	0	0	101	84	185	31	0	1	32	380
08:15	24	129	0	153	0	0	0	0	0	105	73	178	32	0	**12**	**44**	375
Total Volume	131	646	0	777	0	0	0	0	0	402	343	745	126	0	15	141	1663
% App. Total	16.9	83.1	0		0	0	0		0	54	46		89.4	0	10.6		
PHF	.682	.748	.000	.786	.000	.000	.000	.000	.000	.897	.893	.895	.851	.000	.313	.801	.902



MARKS TRAFFIC DATA

STANISLAUS COUNTY

fp
Mietek 916-806-0250

File Name : oakdale-claratina-p
Site Code : 9
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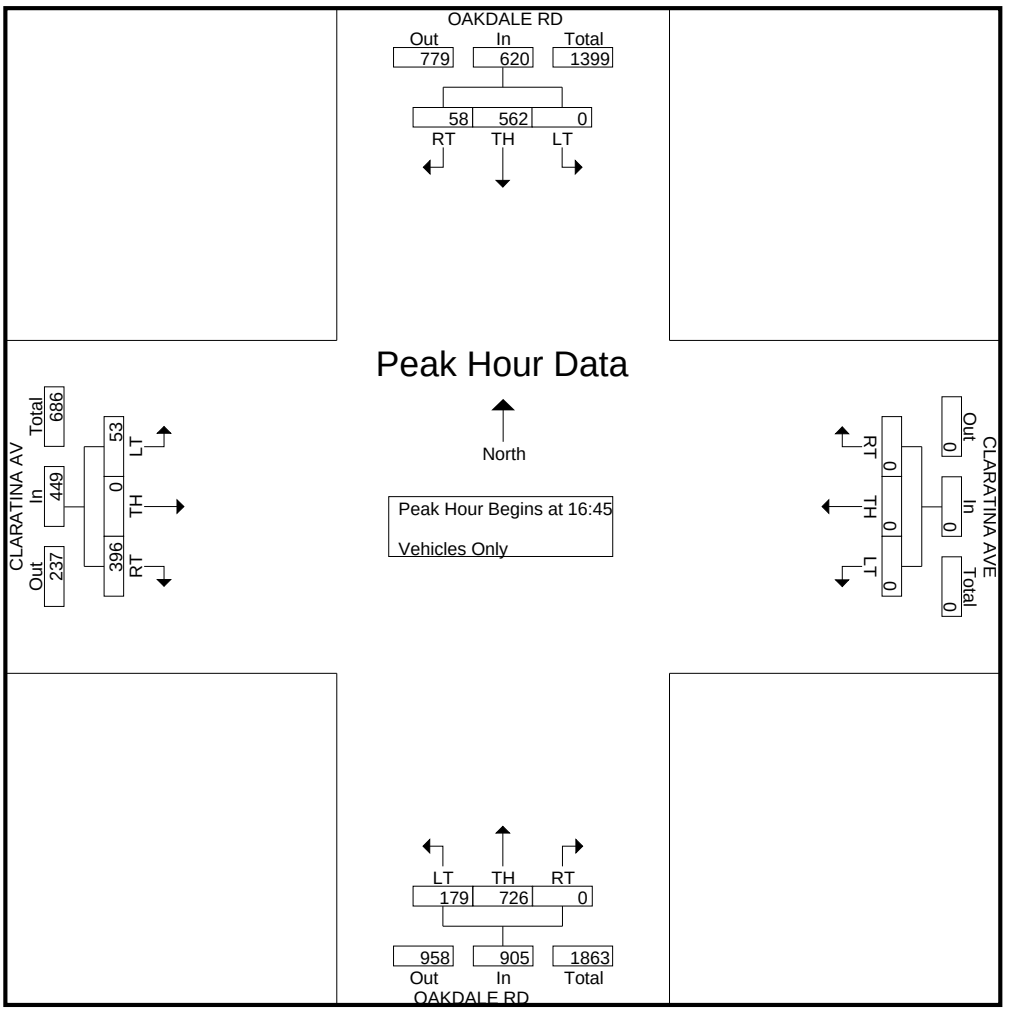
Groups Printed- Vehicles Only

	OAKDALE RD Southbound				CLARATINA AVE Westbound				OAKDALE RD Northbound				CLARATINA AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	15	122	0	137	0	0	0	0	0	169	42	211	82	0	10	92	440
16:15	14	134	0	148	0	0	0	0	0	175	30	205	68	0	11	79	432
16:30	15	160	0	175	0	0	0	0	0	152	40	192	68	0	20	88	455
16:45	17	126	0	143	0	0	0	0	0	184	48	232	87	0	13	100	475
Total	61	542	0	603	0	0	0	0	0	680	160	840	305	0	54	359	1802
17:00	9	153	0	162	0	0	0	0	0	175	40	215	109	0	17	126	503
17:15	14	139	0	153	0	0	0	0	0	192	37	229	107	0	10	117	499
17:30	18	144	0	162	0	0	0	0	0	175	54	229	93	0	13	106	497
17:45	16	145	0	161	0	0	0	0	0	178	46	224	82	0	7	89	474
Total	57	581	0	638	0	0	0	0	0	720	177	897	391	0	47	438	1973
Grand Total	118	1123	0	1241	0	0	0	0	0	1400	337	1737	696	0	101	797	3775
Apprch %	9.5	90.5	0		0	0	0		0	80.6	19.4		87.3	0	12.7		
Total %	3.1	29.7	0	32.9	0	0	0	0	0	37.1	8.9	46	18.4	0	2.7	21.1	

	OAKDALE RD Southbound				CLARATINA AVE Westbound				OAKDALE RD Northbound				CLARATINA AV Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	17	126	0	143	0	0	0	0	0	184	48	**232**	87	0	13	100	475
17:00	9	**153**	0	**162**	0	0	0	0	0	175	40	215	**109**	0	**17**	**126**	**503**
17:15	14	139	0	153	0	0	0	0	0	**192**	37	229	107	0	10	117	499
17:30	**18**	144	0	162	0	0	0	0	0	175	**54**	229	93	0	13	106	497
Total Volume	58	562	0	620	0	0	0	0	0	726	179	905	396	0	53	449	1974
% App. Total	9.4	90.6	0		0	0	0		0	80.2	19.8		88.2	0	11.8		
PHF	.806	.918	.000	.957	.000	.000	.000	.000	.000	.945	.829	.975	.908	.000	.779	.891	.981



MARKS TRAFFIC DATA

STANISLAUS COUNTY
City of Riverbank
fp
Mietek 916-806-0250

File Name : 1st-108-a
Site Code : 10
Start Date : 8/18/2010
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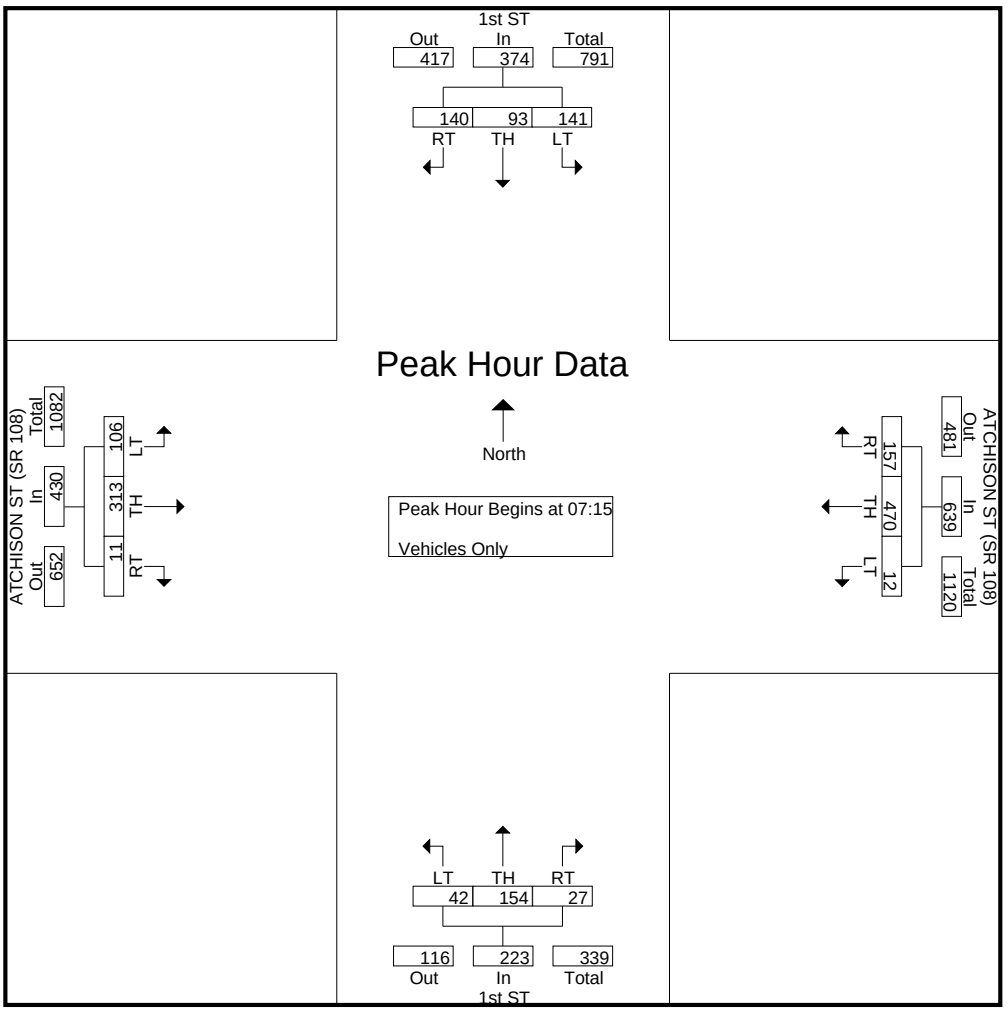
Groups Printed- Vehicles Only

	1st ST Southbound				ATCHISON ST (SR 108) Westbound				1st ST Northbound				ATCHISON ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	20	28	23	71	36	63	2	101	6	32	4	42	0	38	20	58	272
07:15	24	22	34	80	43	101	3	147	7	40	8	55	1	63	27	91	373
07:30	35	24	41	100	44	129	3	176	9	34	8	51	0	70	25	95	422
07:45	45	23	41	109	34	137	4	175	6	34	12	52	7	91	31	129	465
Total	124	97	139	360	157	430	12	599	28	140	32	200	8	262	103	373	1532
08:00	36	24	25	85	36	103	2	141	5	46	14	65	3	89	23	115	406
08:15	39	22	23	84	29	101	4	134	4	23	5	32	4	51	22	77	327
08:30	28	23	30	81	21	83	6	110	3	28	10	41	8	62	19	89	321
08:45	37	14	27	78	20	65	2	87	2	26	8	36	10	61	30	101	302
Total	140	83	105	328	106	352	14	472	14	123	37	174	25	263	94	382	1356
Grand Total	264	180	244	688	263	782	26	1071	42	263	69	374	33	525	197	755	2888
Apprch %	38.4	26.2	35.5		24.6	73	2.4		11.2	70.3	18.4		4.4	69.5	26.1		
Total %	9.1	6.2	8.4	23.8	9.1	27.1	0.9	37.1	1.5	9.1	2.4	13	1.1	18.2	6.8	26.1	

	1st ST Southbound				ATCHISON ST (SR 108) Westbound				1st ST Northbound				ATCHISON ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	24	22	34	80	43	101	3	147	7	40	8	55	1	63	27	91	373
07:30	35	**24**	**41**	100	**44**	129	3	**176**	**9**	34	8	51	0	70	25	95	422
07:45	**45**	23	41	**109**	34	**137**	**4**	175	6	34	12	52	**7**	**91**	**31**	**129**	**465**
08:00	36	24	25	85	36	103	2	141	5	**46**	**14**	**65**	3	89	23	115	406
Total Volume	140	93	141	374	157	470	12	639	27	154	42	223	11	313	106	430	1666
% App. Total	37.4	24.9	37.7		24.6	73.6	1.9		12.1	69.1	18.8		2.6	72.8	24.7		
PHF	.778	.969	.860	.858	.892	.858	.750	.908	.750	.837	.750	.858	.393	.860	.855	.833	.896



MARKS TRAFFIC DATA

STANISLAUS COUNTY

fp
Mietek 916-806-0250

File Name : claus-108-p
Site Code : 11
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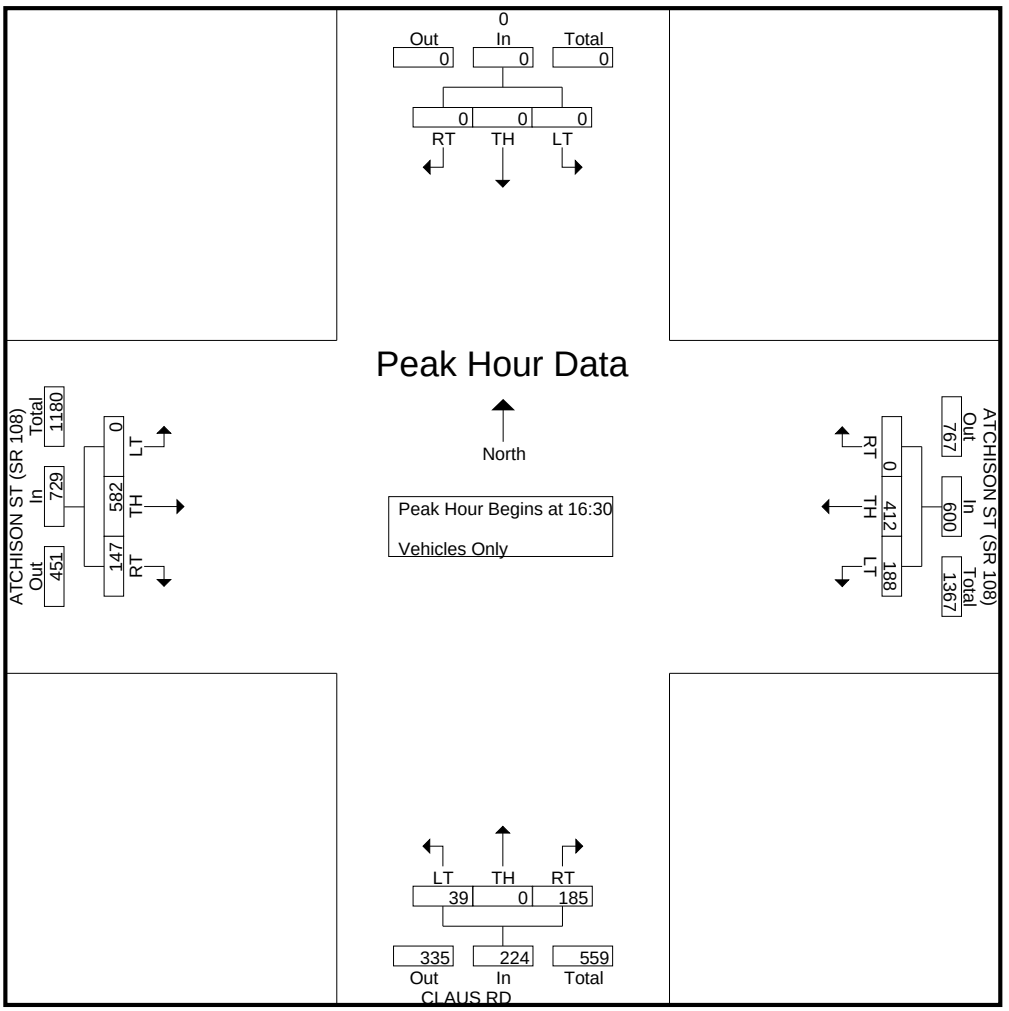
Groups Printed- Vehicles Only

	0 Southbound				ATCHISON ST (SR 108) Westbound				CLAUS RD Northbound				ATCHISON ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	0	0	0	0	0	84	42	126	44	0	15	59	26	151	0	177	362
16:15	0	0	0	0	0	102	38	140	43	0	16	59	38	136	0	174	373
16:30	0	0	0	0	0	103	50	153	54	0	7	61	35	138	0	173	387
16:45	0	0	0	0	0	92	40	132	39	0	8	47	42	159	0	201	380
Total	0	0	0	0	0	381	170	551	180	0	46	226	141	584	0	725	1502
17:00	0	0	0	0	0	116	49	165	52	0	10	62	27	139	0	166	393
17:15	0	0	0	0	0	101	49	150	40	0	14	54	43	146	0	189	393
17:30	0	0	0	0	0	86	40	126	41	0	13	54	24	130	0	154	334
17:45	0	0	0	0	0	71	37	108	50	0	13	63	27	153	0	180	351
Total	0	0	0	0	0	374	175	549	183	0	50	233	121	568	0	689	1471
Grand Total	0	0	0	0	0	755	345	1100	363	0	96	459	262	1152	0	1414	2973
Apprch %	0	0	0		0	68.6	31.4		79.1	0	20.9		18.5	81.5	0		
Total %	0	0	0	0	0	25.4	11.6	37	12.2	0	3.2	15.4	8.8	38.7	0	47.6	

	0 Southbound				ATCHISON ST (SR 108) Westbound				CLAUS RD Northbound				ATCHISON ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	0	0	0	0	0	103	**50**	153	**54**	0	7	61	35	138	0	173	387
16:45	0	0	0	0	0	92	40	132	39	0	8	47	42	**159**	0	**201**	380
17:00	0	0	0	0	0	**116**	49	**165**	52	0	10	**62**	27	139	0	166	**393**
17:15	0	0	0	0	0	101	49	150	40	0	**14**	54	**43**	146	0	189	393
Total Volume	0	0	0	0	0	412	188	600	185	0	39	224	147	582	0	729	1553
% App. Total	0	0	0		0	68.7	31.3		82.6	0	17.4		20.2	79.8	0		
PHF	.000	.000	.000	.000	.000	.888	.940	.909	.856	.000	.696	.903	.855	.915	.000	.907	.988



MARKS TRAFFIC DATA

STANISLAUS COUNTY

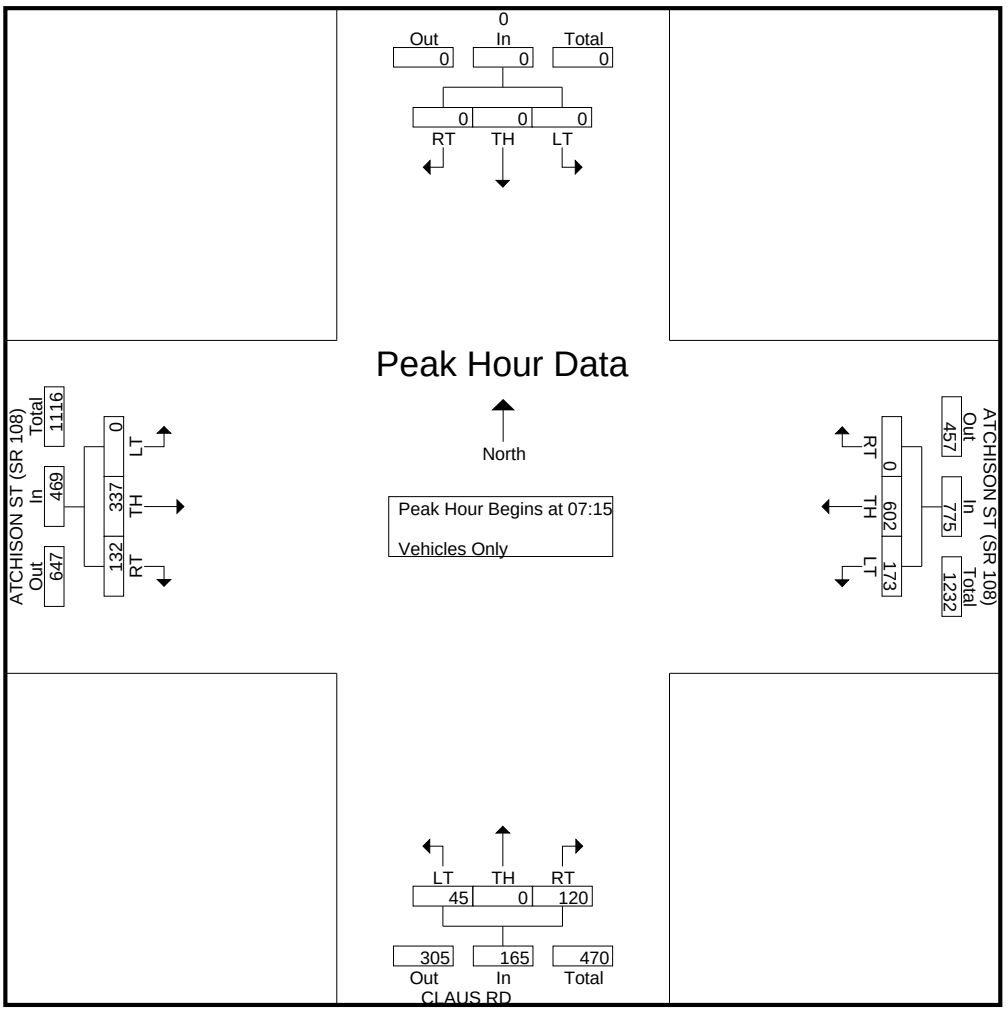
fp
Mietek 916-806-0250

File Name : claus-108-a
Site Code : 11
Start Date : 8/17/2010
Page No : 1

Groups Printed- Vehicles Only

	0 Southbound				ATCHISON ST (SR 108) Westbound				CLAUS RD Northbound				ATCHISON ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	0	0	0	0	0	89	41	130	33	0	16	49	13	56	0	69	248
07:15	0	0	0	0	0	150	43	193	31	0	10	41	22	73	0	95	329
07:30	0	0	0	0	0	160	38	198	35	0	9	44	37	74	0	111	353
07:45	0	0	0	0	0	156	51	207	25	0	11	36	44	94	0	138	381
Total	0	0	0	0	0	555	173	728	124	0	46	170	116	297	0	413	1311
08:00	0	0	0	0	0	136	41	177	29	0	15	44	29	96	0	125	346
08:15	0	0	0	0	0	121	34	155	26	0	9	35	21	69	0	90	280
08:30	0	0	0	0	0	96	39	135	34	0	15	49	19	63	0	82	266
08:45	0	0	0	0	0	82	35	117	33	0	11	44	22	88	0	110	271
Total	0	0	0	0	0	435	149	584	122	0	50	172	91	316	0	407	1163
Grand Total	0	0	0	0	0	990	322	1312	246	0	96	342	207	613	0	820	2474
Apprch %	0	0	0		0	75.5	24.5		71.9	0	28.1		25.2	74.8	0		
Total %	0	0	0	0	0	40	13	53	9.9	0	3.9	13.8	8.4	24.8	0	33.1	

	0 Southbound				ATCHISON ST (SR 108) Westbound				CLAUS RD Northbound				ATCHISON ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	0	0	0	0	150	43	193	31	0	10	41	22	73	0	95	329
07:30	0	0	0	0	0	**160**	38	198	**35**	0	9	**44**	37	74	0	111	353
07:45	0	0	0	0	0	156	**51**	**207**	25	0	11	36	**44**	94	0	**138**	**381**
08:00	0	0	0	0	0	136	41	177	29	0	**15**	44	29	**96**	0	125	346
Total Volume	0	0	0	0	0	602	173	775	120	0	45	165	132	337	0	469	1409
% App. Total	0	0	0		0	77.7	22.3		72.7	0	27.3		28.1	71.9	0		
PHF	.000	.000	.000	.000	.000	.941	.848	.936	.857	.000	.750	.938	.750	.878	.000	.850	.925



MARKS TRAFFIC DATA

STANISLAUS COUNTY

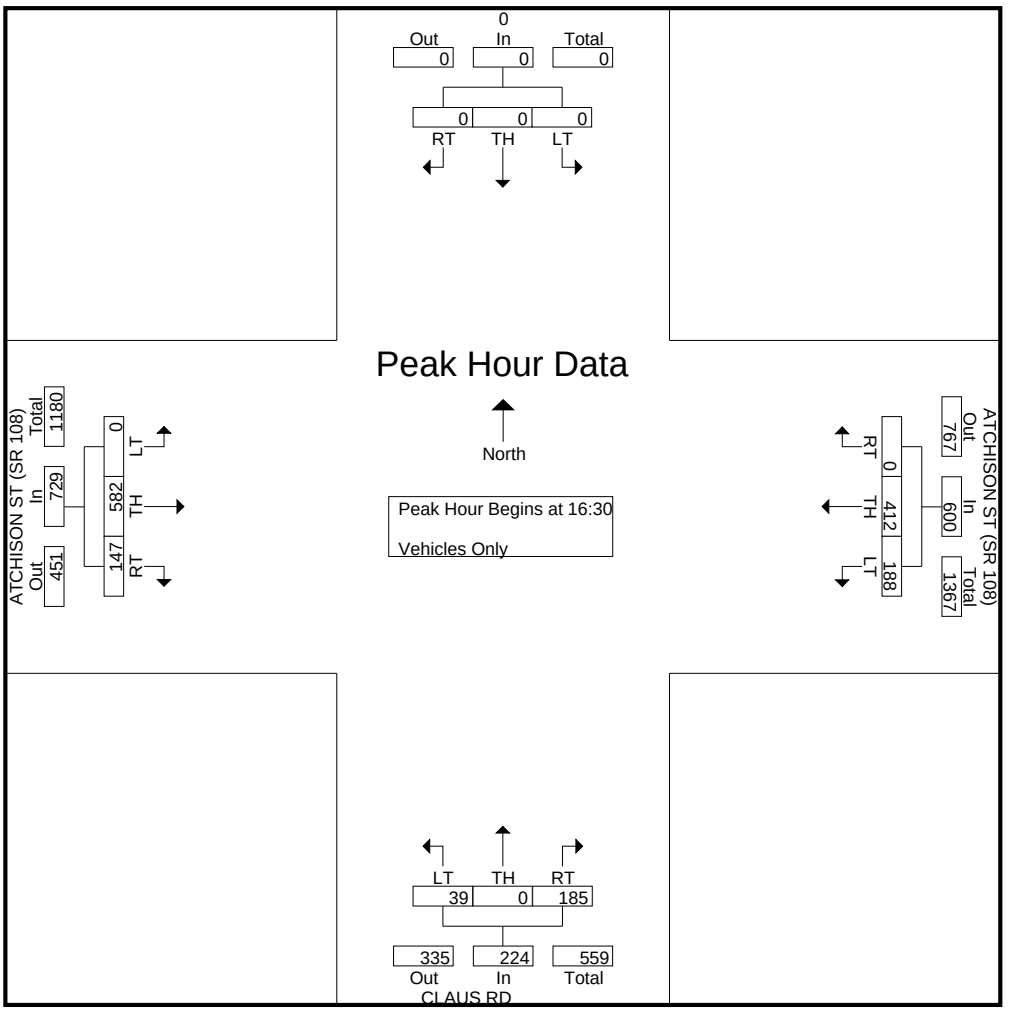
fp
Mietek 916-806-0250

File Name : claus-108-p
Site Code : 11
Start Date : 8/17/2010
Page No : 1

Groups Printed- Vehicles Only

	0 Southbound				ATCHISON ST (SR 108) Westbound				CLAUS RD Northbound				ATCHISON ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	0	0	0	0	0	84	42	126	44	0	15	59	26	151	0	177	362
16:15	0	0	0	0	0	102	38	140	43	0	16	59	38	136	0	174	373
16:30	0	0	0	0	0	103	50	153	54	0	7	61	35	138	0	173	387
16:45	0	0	0	0	0	92	40	132	39	0	8	47	42	159	0	201	380
Total	0	0	0	0	0	381	170	551	180	0	46	226	141	584	0	725	1502
17:00	0	0	0	0	0	116	49	165	52	0	10	62	27	139	0	166	393
17:15	0	0	0	0	0	101	49	150	40	0	14	54	43	146	0	189	393
17:30	0	0	0	0	0	86	40	126	41	0	13	54	24	130	0	154	334
17:45	0	0	0	0	0	71	37	108	50	0	13	63	27	153	0	180	351
Total	0	0	0	0	0	374	175	549	183	0	50	233	121	568	0	689	1471
Grand Total	0	0	0	0	0	755	345	1100	363	0	96	459	262	1152	0	1414	2973
Apprch %	0	0	0		0	68.6	31.4		79.1	0	20.9		18.5	81.5	0		
Total %	0	0	0	0	0	25.4	11.6	37	12.2	0	3.2	15.4	8.8	38.7	0	47.6	

	0 Southbound				ATCHISON ST (SR 108) Westbound				CLAUS RD Northbound				ATCHISON ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	0	0	0	0	0	103	**50**	153	**54**	0	7	61	35	138	0	173	387
16:45	0	0	0	0	0	92	40	132	39	0	8	47	42	**159**	0	**201**	380
17:00	0	0	0	0	0	**116**	49	**165**	52	0	10	**62**	27	139	0	166	**393**
17:15	0	0	0	0	0	101	49	150	40	0	**14**	54	**43**	146	0	189	393
Total Volume	0	0	0	0	0	412	188	600	185	0	39	224	147	582	0	729	1553
% App. Total	0	0	0		0	68.7	31.3		82.6	0	17.4		20.2	79.8	0		
PHF	.000	.000	.000	.000	.000	.888	.940	.909	.856	.000	.696	.903	.855	.915	.000	.907	.988



MARKS TRAFFIC DATA

STANISLAUS COUNTY

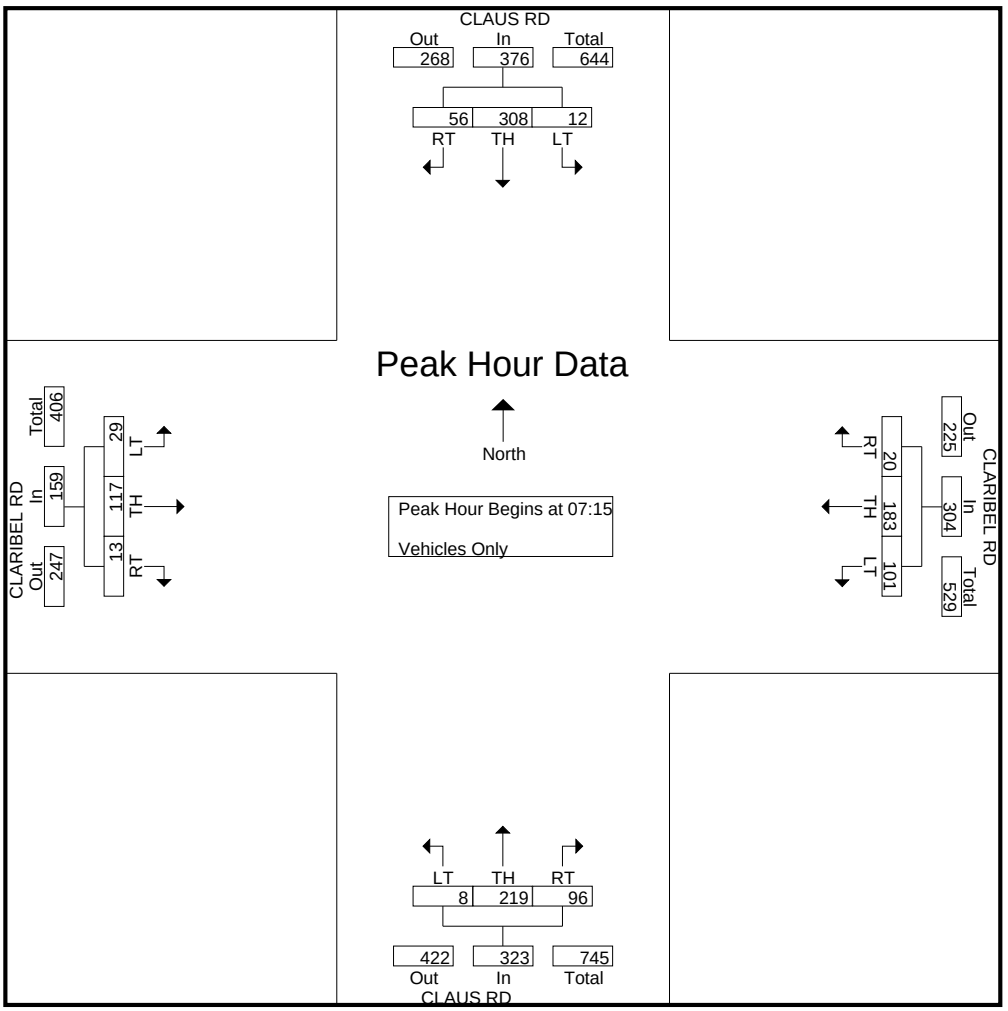
fp
Mietek 916-806-0250

File Name : claus-claribel-a
Site Code : 12
Start Date : 8/17/2010
Page No : 1

Groups Printed- Vehicles Only

	CLAUS RD Southbound				CLARIBEL RD Westbound				CLAUS RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	8	59	3	70	4	29	22	55	28	57	1	86	2	23	6	31	242
07:15	10	71	3	84	9	41	21	71	29	42	2	73	4	21	7	32	260
07:30	12	89	4	105	7	51	30	88	24	67	2	93	2	30	12	44	330
07:45	17	71	2	90	3	56	34	93	26	57	3	86	3	36	8	47	316
Total	47	290	12	349	23	177	107	307	107	223	8	338	11	110	33	154	1148
08:00	17	77	3	97	1	35	16	52	17	53	1	71	4	30	2	36	256
08:15	13	56	3	72	3	42	13	58	17	45	3	65	3	20	8	31	226
08:30	14	67	0	81	1	32	21	54	19	36	3	58	3	28	4	35	228
08:45	3	61	2	66	1	40	20	61	12	36	1	49	8	25	11	44	220
Total	47	261	8	316	6	149	70	225	65	170	8	243	18	103	25	146	930
Grand Total	94	551	20	665	29	326	177	532	172	393	16	581	29	213	58	300	2078
Apprch %	14.1	82.9	3		5.5	61.3	33.3		29.6	67.6	2.8		9.7	71	19.3		
Total %	4.5	26.5	1	32	1.4	15.7	8.5	25.6	8.3	18.9	0.8	28	1.4	10.3	2.8	14.4	

	CLAUS RD Southbound				CLARIBEL RD Westbound				CLAUS RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	10	71	3	84	**9**	41	21	71	**29**	42	2	73	**4**	21	7	32	260
07:30	12	**89**	**4**	**105**	7	51	30	88	24	**67**	2	**93**	2	30	**12**	44	**330**
07:45	**17**	71	2	90	3	**56**	**34**	**93**	26	57	**3**	86	3	**36**	8	**47**	316
08:00	17	77	3	97	1	35	16	52	17	53	1	71	4	30	2	36	256
Total Volume	56	308	12	376	20	183	101	304	96	219	8	323	13	117	29	159	1162
% App. Total	14.9	81.9	3.2		6.6	60.2	33.2		29.7	67.8	2.5		8.2	73.6	18.2		
PHF	.824	.865	.750	.895	.556	.817	.743	.817	.828	.817	.667	.868	.813	.813	.604	.846	.880



MARKS TRAFFIC DATA

STANISLAUS COUNTY

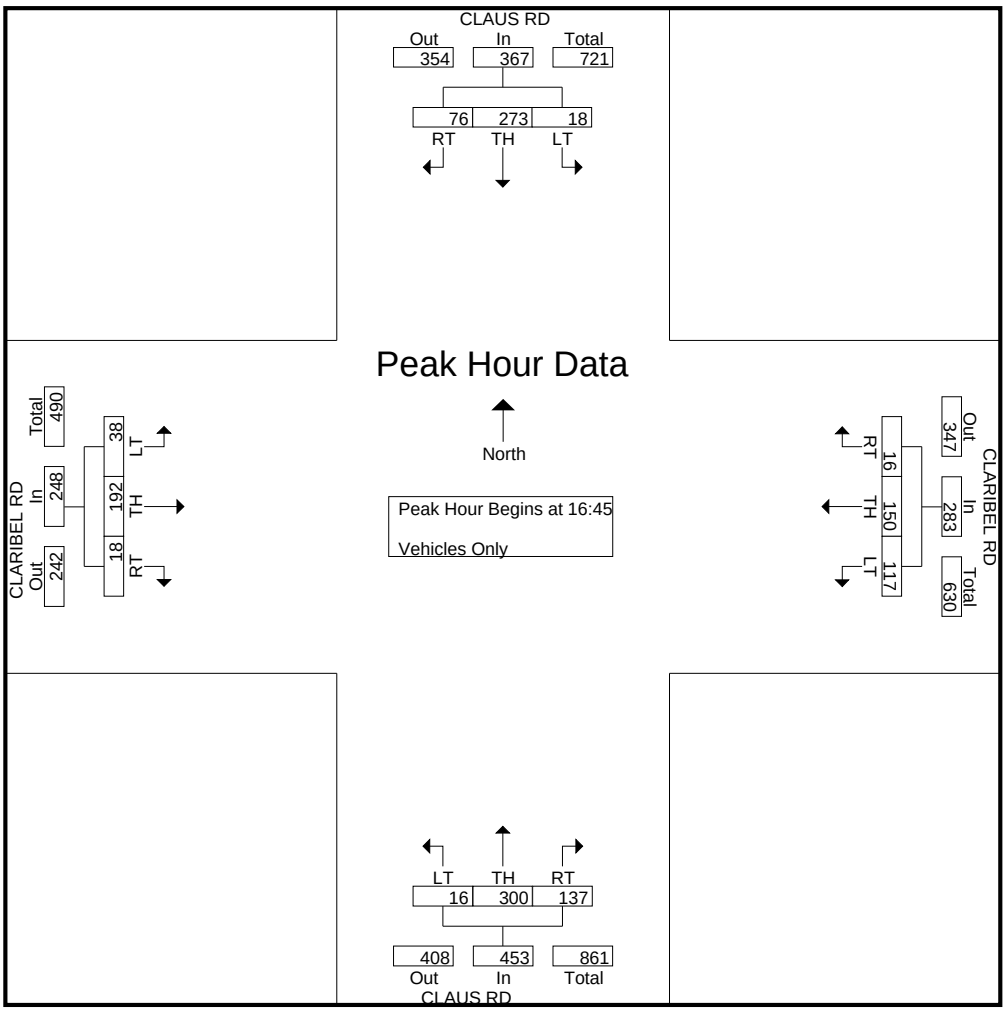
fp
Mietek 916-806-0250

File Name : claus-claribel-p
Site Code : 12
Start Date : 8/17/2010
Page No : 1

Groups Printed- Vehicles Only

	CLAUS RD Southbound				CLARIBEL RD Westbound				CLAUS RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	18	72	5	95	2	29	24	55	29	54	3	86	3	35	16	54	290
16:15	17	62	8	87	3	28	18	49	30	74	1	105	6	45	17	68	309
16:30	13	72	6	91	3	44	22	69	22	54	4	80	5	46	12	63	303
16:45	25	68	5	98	3	39	44	86	33	84	5	122	5	50	9	64	370
Total	73	274	24	371	11	140	108	259	114	266	13	393	19	176	54	249	1272
17:00	24	70	6	100	3	31	24	58	31	71	4	106	4	52	5	61	325
17:15	12	70	5	87	2	42	21	65	32	87	4	123	8	30	6	44	319
17:30	15	65	2	82	8	38	28	74	41	58	3	102	1	60	18	79	337
17:45	16	53	4	73	8	37	19	64	27	105	3	135	2	46	12	60	332
Total	67	258	17	342	21	148	92	261	131	321	14	466	15	188	41	244	1313
Grand Total	140	532	41	713	32	288	200	520	245	587	27	859	34	364	95	493	2585
Apprch %	19.6	74.6	5.8		6.2	55.4	38.5		28.5	68.3	3.1		6.9	73.8	19.3		
Total %	5.4	20.6	1.6	27.6	1.2	11.1	7.7	20.1	9.5	22.7	1	33.2	1.3	14.1	3.7	19.1	

	CLAUS RD Southbound				CLARIBEL RD Westbound				CLAUS RD Northbound				CLARIBEL RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	**25**	68	5	98	3	39	**44**	**86**	33	84	**5**	122	5	50	9	64	**370**
17:00	24	**70**	**6**	**100**	3	31	24	58	31	71	4	106	4	52	5	61	325
17:15	12	70	5	87	2	**42**	21	65	32	**87**	4	**123**	**8**	30	6	44	319
17:30	15	65	2	82	**8**	38	28	74	**41**	58	3	102	1	**60**	**18**	**79**	337
Total Volume	76	273	18	367	16	150	117	283	137	300	16	453	18	192	38	248	1351
% App. Total	20.7	74.4	4.9		5.7	53	41.3		30.2	66.2	3.5		7.3	77.4	15.3		
PHF	.760	.975	.750	.918	.500	.893	.665	.823	.835	.862	.800	.921	.563	.800	.528	.785	.913



MARKS TRAFFIC DATA

STANISLAUS COUNTY

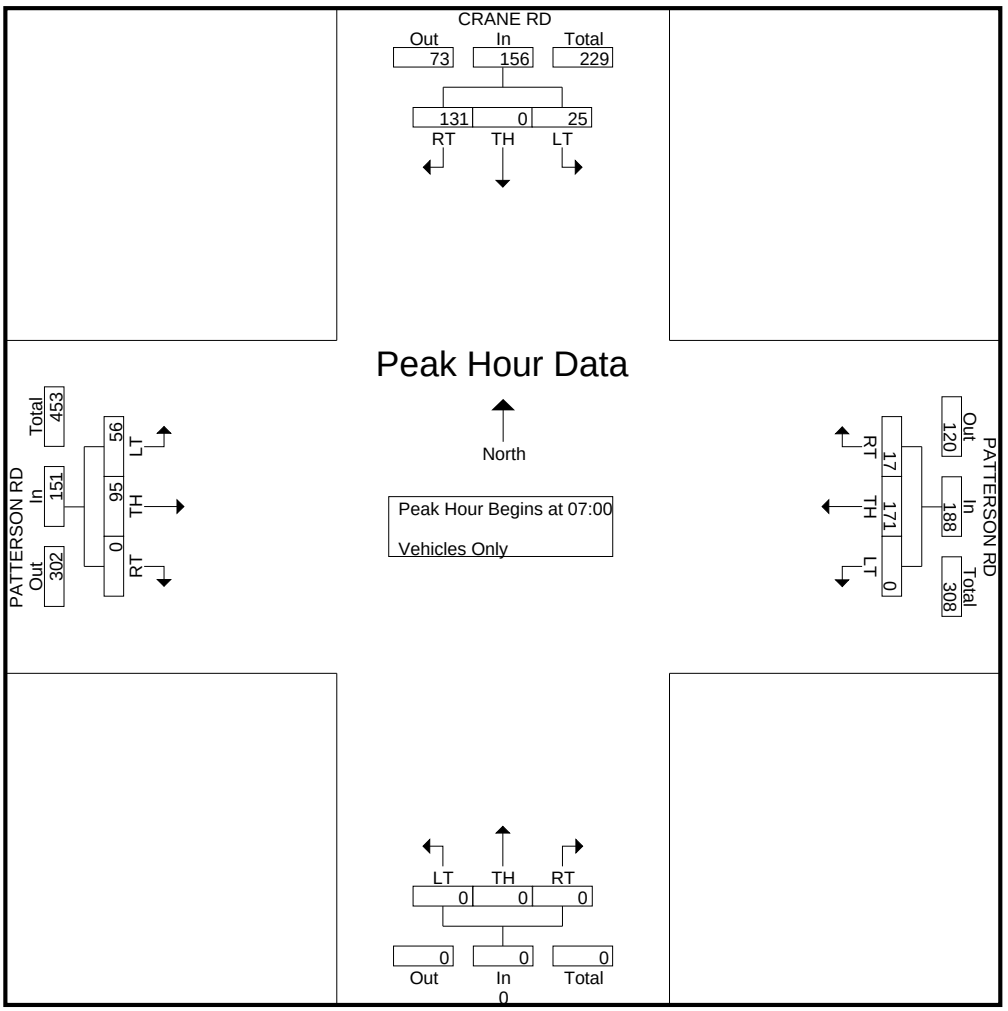
fp
Mietek 916-806-0250

File Name : crane-patterson-a
Site Code : 13
Start Date : 8/18/2010
Page No : 1

Groups Printed- Vehicles Only

	CRANE RD Southbound				PATTERSON RD Westbound				0 Northbound				PATTERSON RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	26	0	2	28	3	64	0	67	0	0	0	0	0	19	11	30	125
07:15	35	0	13	48	2	35	0	37	0	0	0	0	0	26	15	41	126
07:30	43	0	5	48	10	40	0	50	0	0	0	0	0	28	12	40	138
07:45	27	0	5	32	2	32	0	34	0	0	0	0	0	22	18	40	106
Total	131	0	25	156	17	171	0	188	0	0	0	0	0	95	56	151	495
08:00	27	0	8	35	5	21	0	26	0	0	0	0	0	22	13	35	96
08:15	20	0	2	22	5	14	0	19	0	0	0	0	0	15	16	31	72
08:30	14	0	4	18	4	24	0	28	0	0	0	0	0	24	17	41	87
08:45	11	0	6	17	3	16	0	19	0	0	0	0	0	19	9	28	64
Total	72	0	20	92	17	75	0	92	0	0	0	0	0	80	55	135	319
Grand Total	203	0	45	248	34	246	0	280	0	0	0	0	0	175	111	286	814
Apprch %	81.9	0	18.1		12.1	87.9	0		0	0	0		0	61.2	38.8		
Total %	24.9	0	5.5	30.5	4.2	30.2	0	34.4	0	0	0	0	0	21.5	13.6	35.1	

	CRANE RD Southbound				PATTERSON RD Westbound				0 Northbound				PATTERSON RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00																	
07:00	26	0	2	28	3	**64**	0	**67**	0	0	0	0	0	19	11	30	125
07:15	35	0	**13**	**48**	2	35	0	37	0	0	0	0	0	26	15	**41**	126
07:30	**43**	0	5	48	**10**	40	0	50	0	0	0	0	0	**28**	12	40	**138**
07:45	27	0	5	32	2	32	0	34	0	0	0	0	0	22	**18**	40	106
Total Volume	131	0	25	156	17	171	0	188	0	0	0	0	0	95	56	151	495
% App. Total	84	0	16		9	91	0		0	0	0		0	62.9	37.1		
PHF	.762	.000	.481	.813	.425	.668	.000	.701	.000	.000	.000	.000	.000	.848	.778	.921	.897



MARKS TRAFFIC DATA

STANISLAUS COUNTY

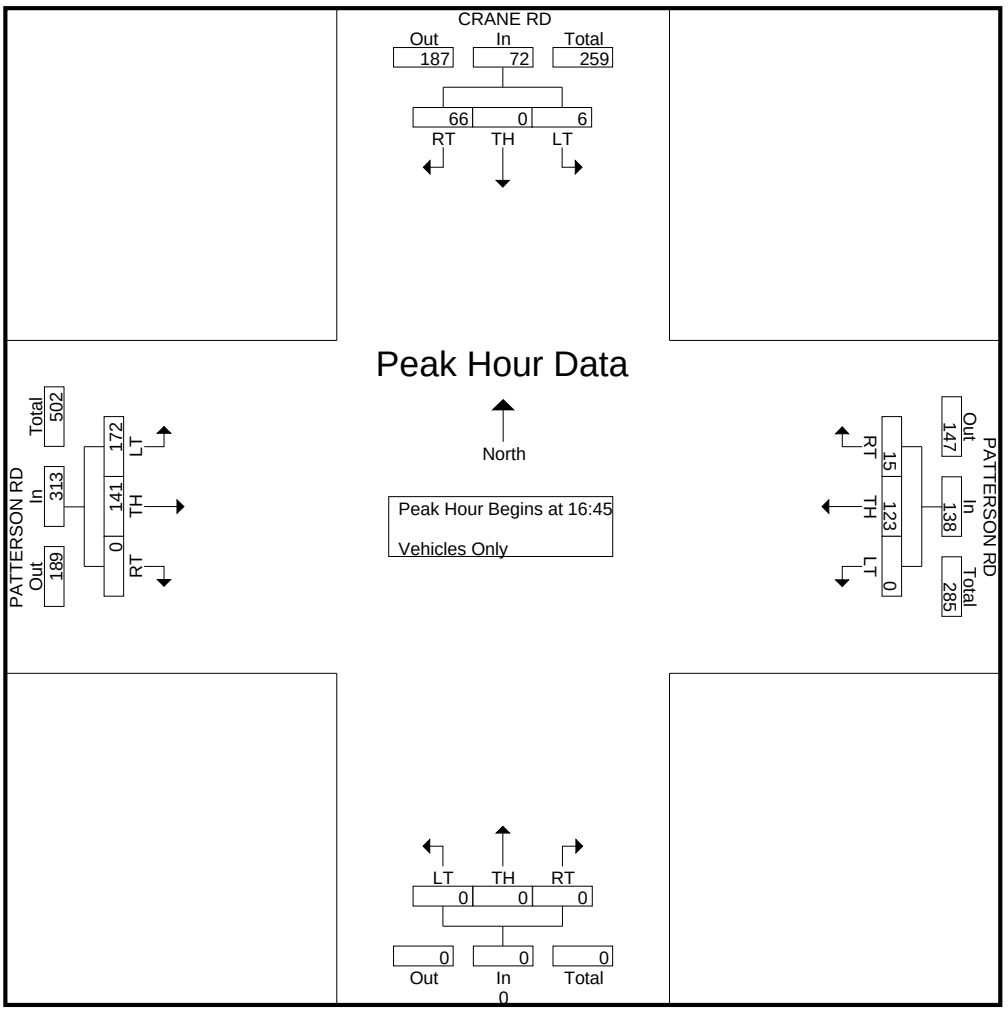
fp
Mietek 916-806-0250

File Name : crane-patterson-p
Site Code : 13
Start Date : 8/18/2010
Page No : 1

Groups Printed- Vehicles Only

	CRANE RD Southbound				PATTERSON RD Westbound				0 Northbound				PATTERSON RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	12	0	7	19	8	28	0	36	0	0	0	0	0	34	23	57	112
16:15	15	0	5	20	4	35	0	39	0	0	0	0	0	38	31	69	128
16:30	26	0	0	26	3	35	0	38	0	0	0	0	0	22	33	55	119
16:45	17	0	2	19	5	23	0	28	0	0	0	0	0	39	36	75	122
Total	70	0	14	84	20	121	0	141	0	0	0	0	0	133	123	256	481
17:00	12	0	0	12	5	31	0	36	0	0	0	0	0	33	36	69	117
17:15	17	0	2	19	3	33	0	36	0	0	0	0	0	23	44	67	122
17:30	20	0	2	22	2	36	0	38	0	0	0	0	0	46	56	102	162
17:45	16	0	0	16	8	29	0	37	0	0	0	0	0	42	26	68	121
Total	65	0	4	69	18	129	0	147	0	0	0	0	0	144	162	306	522
Grand Total	135	0	18	153	38	250	0	288	0	0	0	0	0	277	285	562	1003
Apprch %	88.2	0	11.8		13.2	86.8	0		0	0	0		0	49.3	50.7		
Total %	13.5	0	1.8	15.3	3.8	24.9	0	28.7	0	0	0	0	0	27.6	28.4	56	

	CRANE RD Southbound				PATTERSON RD Westbound				0 Northbound				PATTERSON RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	17	0	**2**	19	**5**	23	0	28	0	0	0	0	0	39	36	75	122
17:00	12	0	0	12	5	31	0	36	0	0	0	0	0	33	36	69	117
17:15	17	0	2	19	3	33	0	36	0	0	0	0	0	23	44	67	122
17:30	**20**	0	2	**22**	2	**36**	0	**38**	0	0	0	0	0	**46**	**56**	**102**	**162**
Total Volume	66	0	6	72	15	123	0	138	0	0	0	0	0	141	172	313	523
% App. Total	91.7	0	8.3		10.9	89.1	0		0	0	0		0	45	55		
PHF	.825	.000	.750	.818	.750	.854	.000	.908	.000	.000	.000	.000	.000	.766	.768	.767	.807



MARKS TRAFFIC DATA

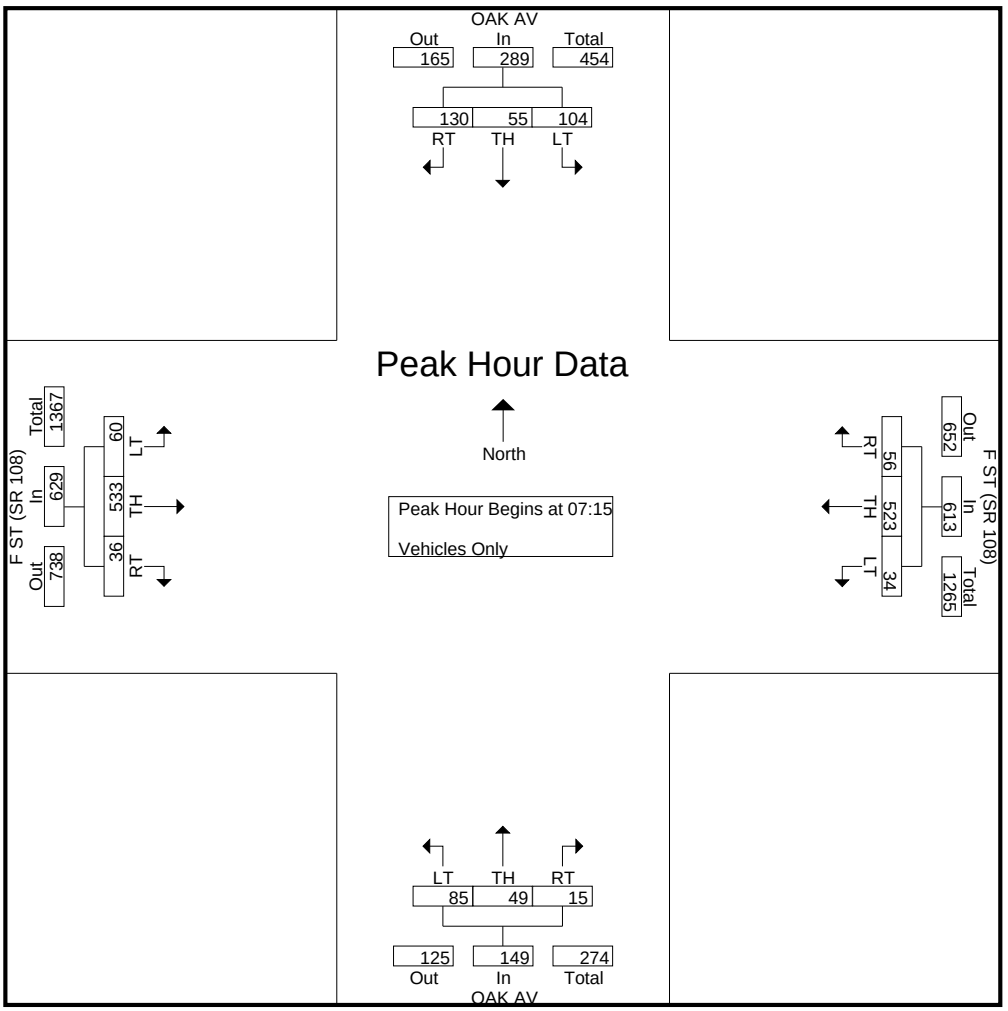
STANISLAUS COUNTY
City of Oakdale
fp
Mietek 916-806-0250

File Name : oak-108-a
Site Code : 14
Start Date : 8/19/2010
Page No : 1

Groups Printed- Vehicles Only

	OAK AV Southbound				F ST (SR 108) Westbound				OAK AV Northbound				F ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	20	1	18	39	8	89	6	103	3	3	15	21	7	85	8	100	263
07:15	23	10	26	59	11	113	3	127	1	7	32	40	7	164	7	178	404
07:30	44	14	35	93	24	152	11	187	5	21	33	59	9	136	20	165	504
07:45	39	17	16	72	14	129	7	150	7	15	16	38	11	123	22	156	416
Total	126	42	95	263	57	483	27	567	16	46	96	158	34	508	57	599	1587
08:00	24	14	27	65	7	129	13	149	2	6	4	12	9	110	11	130	356
08:15	16	5	16	37	5	125	11	141	3	1	12	16	7	128	5	140	334
08:30	21	9	8	38	7	104	15	126	6	3	7	16	12	107	7	126	306
08:45	10	3	10	23	9	100	19	128	12	1	6	19	8	96	13	117	287
Total	71	31	61	163	28	458	58	544	23	11	29	63	36	441	36	513	1283
Grand Total	197	73	156	426	85	941	85	1111	39	57	125	221	70	949	93	1112	2870
Apprch %	46.2	17.1	36.6		7.7	84.7	7.7		17.6	25.8	56.6		6.3	85.3	8.4		
Total %	6.9	2.5	5.4	14.8	3	32.8	3	38.7	1.4	2	4.4	7.7	2.4	33.1	3.2	38.7	

	OAK AV Southbound				F ST (SR 108) Westbound				OAK AV Northbound				F ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	23	10	26	59	11	113	3	127	1	7	32	40	7	**164**	7	**178**	404
07:30	**44**	14	**35**	**93**	**24**	**152**	11	**187**	5	**21**	**33**	**59**	9	136	20	165	**504**
07:45	39	**17**	16	72	14	129	7	150	**7**	15	16	38	**11**	123	**22**	156	416
08:00	24	14	27	65	7	129	**13**	149	2	6	4	12	9	110	11	130	356
Total Volume	130	55	104	289	56	523	34	613	15	49	85	149	36	533	60	629	1680
% App. Total	45	19	36		9.1	85.3	5.5		10.1	32.9	57		5.7	84.7	9.5		
PHF	.739	.809	.743	.777	.583	.860	.654	.820	.536	.583	.644	.631	.818	.813	.682	.883	.833



MARKS TRAFFIC DATA

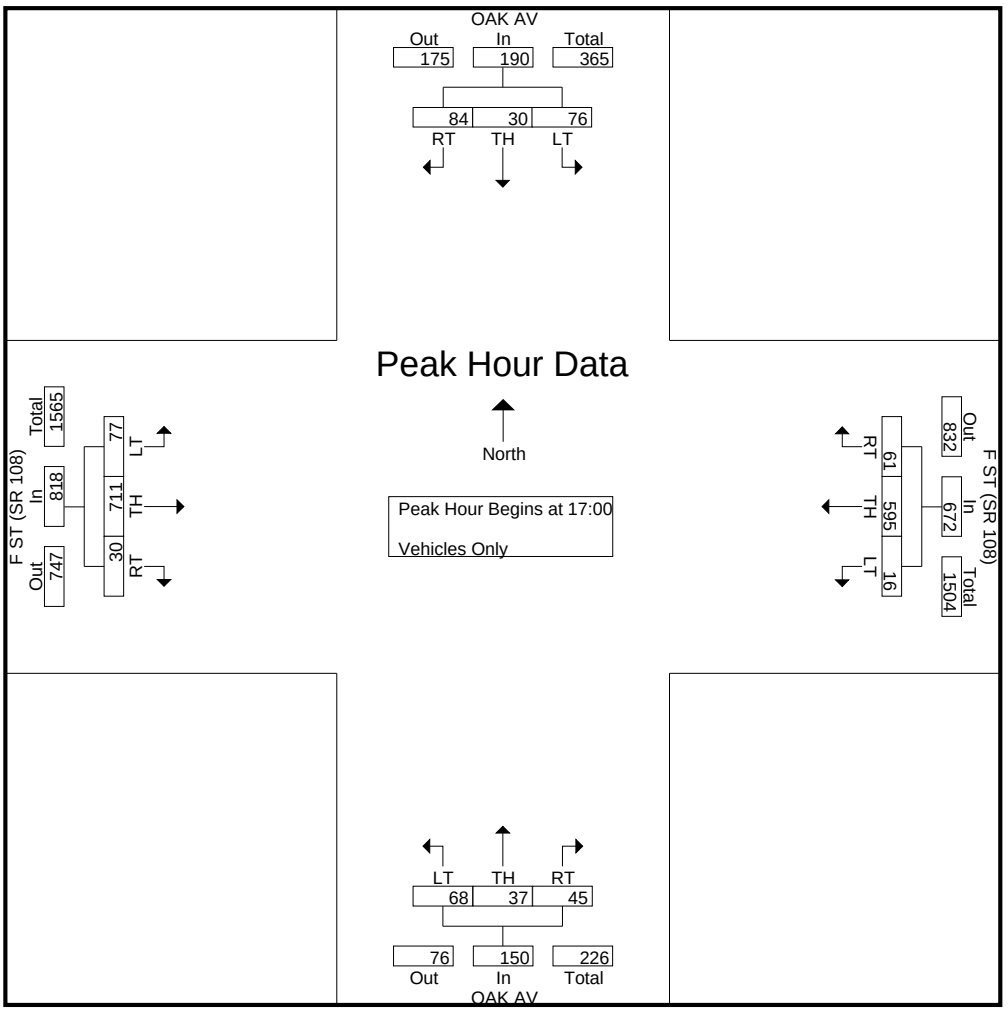
STANISLAUS COUNTY
City of Oakdale
fp
Mietek 916-806-0250

File Name : oak-108-p
Site Code : 14
Start Date : 8/19/2010
Page No : 1

Groups Printed- Vehicles Only

	OAK AV Southbound				F ST (SR 108) Westbound				OAK AV Northbound				F ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	15	7	15	37	15	131	7	153	13	6	22	41	5	162	17	184	415
16:15	25	7	11	43	13	117	7	137	15	4	17	36	8	170	21	199	415
16:30	24	9	11	44	16	152	3	171	14	15	18	47	5	162	19	186	448
16:45	21	11	23	55	11	109	5	125	14	8	28	50	6	167	19	192	422
Total	85	34	60	179	55	509	22	586	56	33	85	174	24	661	76	761	1700
17:00	27	6	16	49	17	154	4	175	11	12	19	42	8	188	25	221	487
17:15	16	11	20	47	14	164	3	181	15	13	18	46	8	166	15	189	463
17:30	24	6	18	48	15	135	4	154	12	7	16	35	8	191	18	217	454
17:45	17	7	22	46	15	142	5	162	7	5	15	27	6	166	19	191	426
Total	84	30	76	190	61	595	16	672	45	37	68	150	30	711	77	818	1830
Grand Total	169	64	136	369	116	1104	38	1258	101	70	153	324	54	1372	153	1579	3530
Apprch %	45.8	17.3	36.9		9.2	87.8	3		31.2	21.6	47.2		3.4	86.9	9.7		
Total %	4.8	1.8	3.9	10.5	3.3	31.3	1.1	35.6	2.9	2	4.3	9.2	1.5	38.9	4.3	44.7	

	OAK AV Southbound				F ST (SR 108) Westbound				OAK AV Northbound				F ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	**27**	6	16	**49**	**17**	154	4	175	11	12	**19**	42	**8**	188	**25**	**221**	**487**
17:15	16	**11**	20	47	14	**164**	3	**181**	**15**	**13**	18	**46**	8	166	15	189	463
17:30	24	6	18	48	15	135	4	154	12	7	16	35	8	**191**	18	217	454
17:45	17	7	**22**	46	15	142	**5**	162	7	5	15	27	6	166	19	191	426
Total Volume	84	30	76	190	61	595	16	672	45	37	68	150	30	711	77	818	1830
% App. Total	44.2	15.8	40		9.1	88.5	2.4		30	24.7	45.3		3.7	86.9	9.4		
PHF	.778	.682	.864	.969	.897	.907	.800	.928	.750	.712	.895	.815	.938	.931	.770	.925	.939



MARKS TRAFFIC DATA

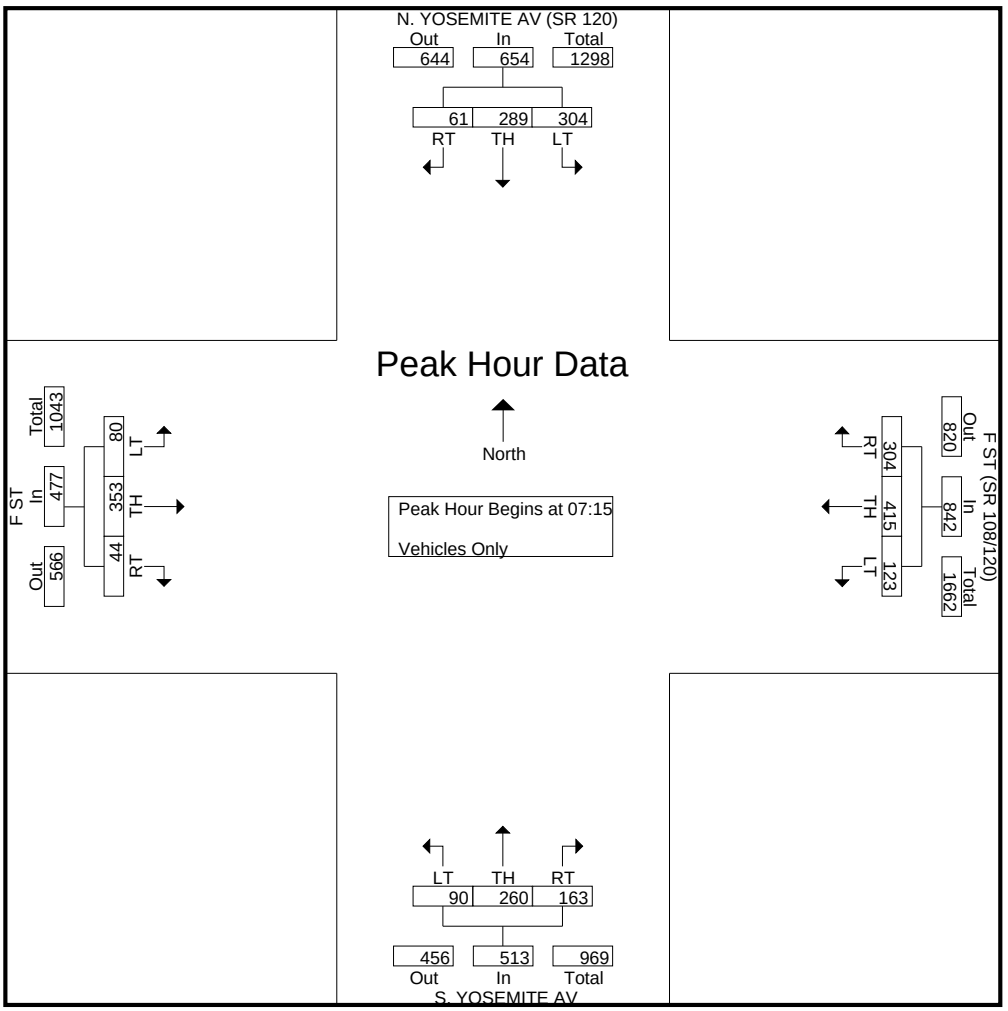
STANISLAUS COUNTY
City of Oakdale
fp
Mietek 916-806-0250

File Name : yosemite-f-a
Site Code : 15
Start Date : 8/17/2010
Page No : 1

Groups Printed- Vehicles Only

	N. YOSEMITE AV (SR 120) Southbound				F ST (SR 108/120) Westbound				S. YOSEMITE AV Northbound				F ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	11	41	35	87	55	73	33	161	28	60	7	95	15	64	11	90	433
07:15	18	89	62	169	78	116	34	228	39	65	16	120	11	73	23	107	624
07:30	13	83	76	172	67	102	28	197	50	61	18	129	16	117	21	154	652
07:45	15	62	81	158	85	98	27	210	44	72	37	153	11	90	19	120	641
Total	57	275	254	586	285	389	122	796	161	258	78	497	53	344	74	471	2350
08:00	15	55	85	155	74	99	34	207	30	62	19	111	6	73	17	96	569
08:15	16	49	74	139	63	80	43	186	34	53	21	108	10	68	13	91	524
08:30	18	43	66	127	49	90	29	168	31	46	11	88	11	63	17	91	474
08:45	18	57	53	128	65	100	33	198	42	54	18	114	10	92	13	115	555
Total	67	204	278	549	251	369	139	759	137	215	69	421	37	296	60	393	2122
Grand Total	124	479	532	1135	536	758	261	1555	298	473	147	918	90	640	134	864	4472
Apprch %	10.9	42.2	46.9		34.5	48.7	16.8		32.5	51.5	16		10.4	74.1	15.5		
Total %	2.8	10.7	11.9	25.4	12	16.9	5.8	34.8	6.7	10.6	3.3	20.5	2	14.3	3	19.3	

	N. YOSEMITE AV (SR 120) Southbound				F ST (SR 108/120) Westbound				S. YOSEMITE AV Northbound				F ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	**18**	**89**	62	169	78	**116**	**34**	**228**	39	65	16	120	11	73	**23**	107	624
07:30	13	83	76	**172**	67	102	28	197	**50**	61	18	129	**16**	**117**	21	**154**	**652**
07:45	15	62	81	158	**85**	98	27	210	44	**72**	**37**	**153**	11	90	19	120	641
08:00	15	55	**85**	155	74	99	34	207	30	62	19	111	6	73	17	96	569
Total Volume	61	289	304	654	304	415	123	842	163	260	90	513	44	353	80	477	2486
% App. Total	9.3	44.2	46.5		36.1	49.3	14.6		31.8	50.7	17.5		9.2	74	16.8		
PHF	.847	.812	.894	.951	.894	.894	.904	.923	.815	.903	.608	.838	.688	.754	.870	.774	.953



MARKS TRAFFIC DATA

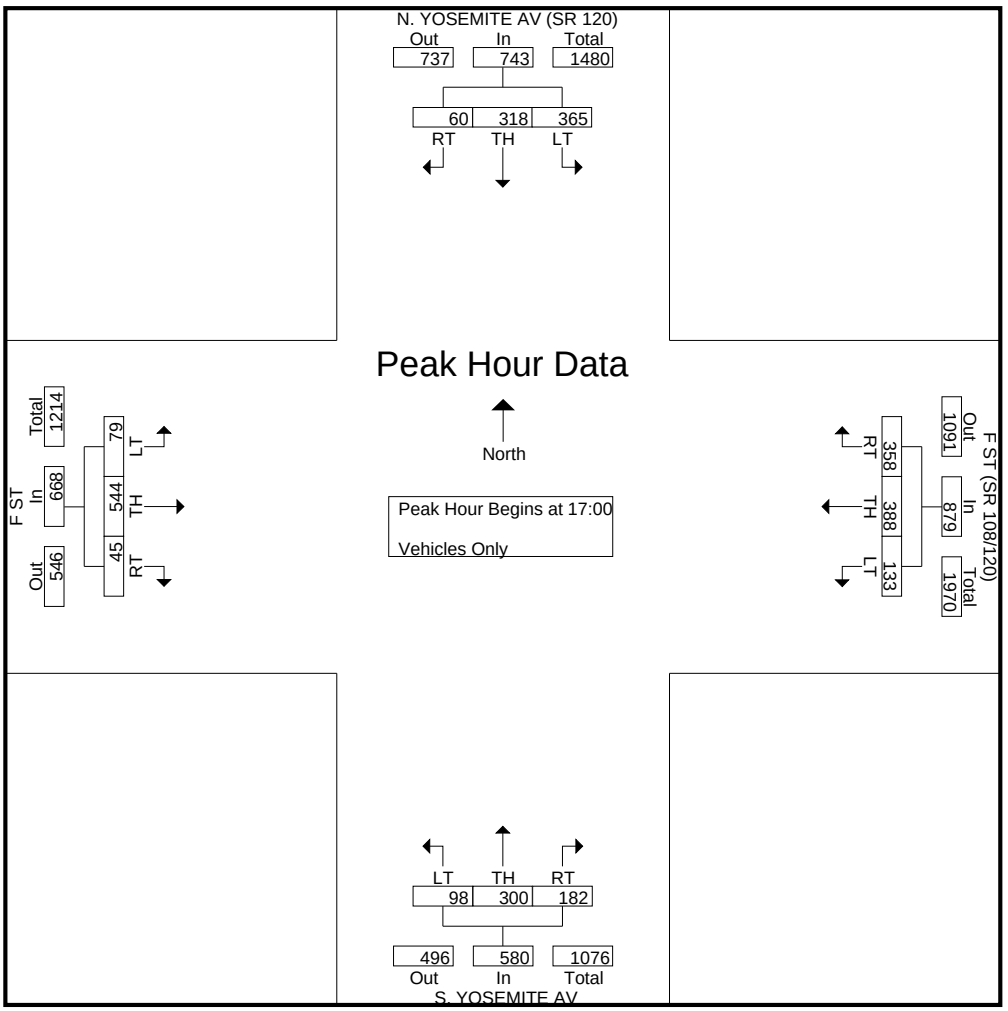
STANISLAUS COUNTY
City of Oakdale
fp
Mietek 916-806-0250

File Name : yosemite-f-p
Site Code : 15
Start Date : 8/17/2010
Page No : 1

Groups Printed- Vehicles Only

	N. YOSEMITE AV (SR 120) Southbound				F ST (SR 108/120) Westbound				S. YOSEMITE AV Northbound				F ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	12	81	100	193	63	77	33	173	46	60	17	123	13	96	18	127	616
16:15	17	72	83	172	105	128	31	264	32	47	21	100	15	123	12	150	686
16:30	23	88	79	190	88	90	46	224	26	94	25	145	12	92	29	133	692
16:45	14	85	83	182	107	99	24	230	51	68	17	136	15	120	28	163	711
Total	66	326	345	737	363	394	134	891	155	269	80	504	55	431	87	573	2705
17:00	9	83	89	181	86	100	40	226	42	82	28	152	10	132	24	166	725
17:15	13	84	91	188	104	87	33	224	40	73	19	132	11	147	16	174	718
17:30	23	75	77	175	82	96	31	209	50	82	27	159	8	137	21	166	709
17:45	15	76	108	199	86	105	29	220	50	63	24	137	16	128	18	162	718
Total	60	318	365	743	358	388	133	879	182	300	98	580	45	544	79	668	2870
Grand Total	126	644	710	1480	721	782	267	1770	337	569	178	1084	100	975	166	1241	5575
Apprch %	8.5	43.5	48		40.7	44.2	15.1		31.1	52.5	16.4		8.1	78.6	13.4		
Total %	2.3	11.6	12.7	26.5	12.9	14	4.8	31.7	6	10.2	3.2	19.4	1.8	17.5	3	22.3	

	N. YOSEMITE AV (SR 120) Southbound				F ST (SR 108/120) Westbound				S. YOSEMITE AV Northbound				F ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	9	83	89	181	86	100	**40**	**226**	42	**82**	**28**	152	10	132	**24**	166	**725**
17:15	13	**84**	91	188	**104**	87	33	224	40	73	19	132	11	**147**	16	**174**	718
17:30	**23**	75	77	175	82	96	31	209	**50**	82	27	**159**	8	137	21	166	709
17:45	15	76	**108**	**199**	86	**105**	29	220	50	63	24	137	**16**	128	18	162	718
Total Volume	60	318	365	743	358	388	133	879	182	300	98	580	45	544	79	668	2870
% App. Total	8.1	42.8	49.1		40.7	44.1	15.1		31.4	51.7	16.9		6.7	81.4	11.8		
PHF	.652	.946	.845	.933	.861	.924	.831	.972	.910	.915	.875	.912	.703	.925	.823	.960	.990



MARKS TRAFFIC DATA

STANISLAUS COUNTY

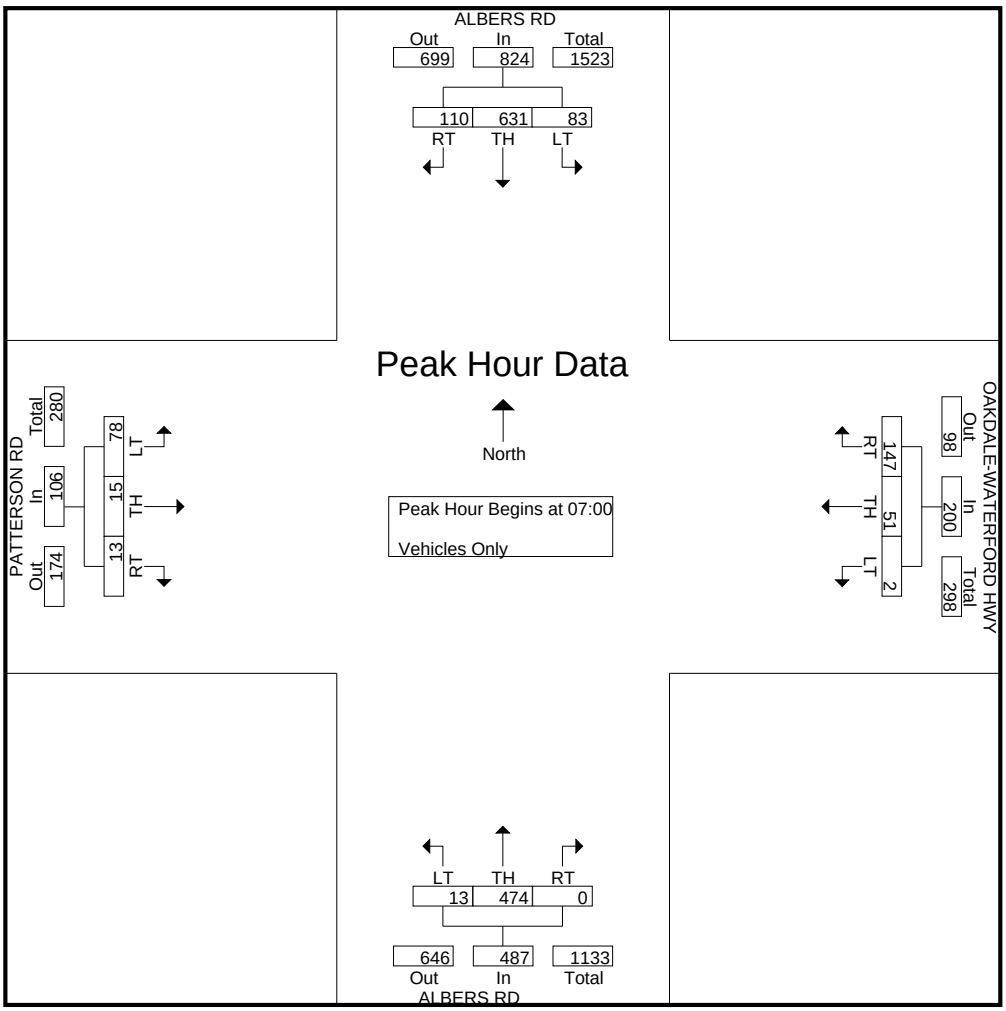
fp
Mietek 916-806-0250

File Name : albers-patterson-a
Site Code : 16
Start Date : 8/17/2010
Page No : 1

Groups Printed- Vehicles Only

	ALBERS RD Southbound				OAKDALE-WATERFORD HWY Westbound				ALBERS RD Northbound				PATTERSON RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	37	149	25	211	30	8	0	38	0	83	2	85	2	6	11	19	353
07:15	31	160	20	211	42	13	1	56	0	116	0	116	6	3	23	32	415
07:30	23	169	20	212	40	17	0	57	0	136	6	142	2	2	19	23	434
07:45	19	153	18	190	35	13	1	49	0	139	5	144	3	4	25	32	415
Total	110	631	83	824	147	51	2	200	0	474	13	487	13	15	78	106	1617
08:00	18	129	21	168	17	2	1	20	0	98	1	99	5	10	17	32	319
08:15	13	101	22	136	42	4	1	47	1	103	3	107	4	12	23	39	329
08:30	11	106	16	133	22	2	0	24	0	86	3	89	3	12	15	30	276
08:45	16	93	12	121	20	10	0	30	2	103	2	107	4	5	7	16	274
Total	58	429	71	558	101	18	2	121	3	390	9	402	16	39	62	117	1198
Grand Total	168	1060	154	1382	248	69	4	321	3	864	22	889	29	54	140	223	2815
Apprch %	12.2	76.7	11.1		77.3	21.5	1.2		0.3	97.2	2.5		13	24.2	62.8		
Total %	6	37.7	5.5	49.1	8.8	2.5	0.1	11.4	0.1	30.7	0.8	31.6	1	1.9	5	7.9	

	ALBERS RD Southbound				OAKDALE-WATERFORD HWY Westbound				ALBERS RD Northbound				PATTERSON RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00																	
07:00	**37**	149	**25**	211	30	8	0	38	0	83	2	85	2	**6**	11	19	353
07:15	31	160	20	211	**42**	13	**1**	56	0	116	0	116	**6**	3	23	**32**	415
07:30	23	**169**	20	**212**	40	**17**	0	**57**	0	136	**6**	142	2	2	19	23	**434**
07:45	19	153	18	190	35	13	1	49	0	**139**	5	**144**	3	4	**25**	32	415
Total Volume	110	631	83	824	147	51	2	200	0	474	13	487	13	15	78	106	1617
% App. Total	13.3	76.6	10.1		73.5	25.5	1		0	97.3	2.7		12.3	14.2	73.6		
PHF	.743	.933	.830	.972	.875	.750	.500	.877	.000	.853	.542	.845	.542	.625	.780	.828	.931



MARKS TRAFFIC DATA

STANISLAUS COUNTY

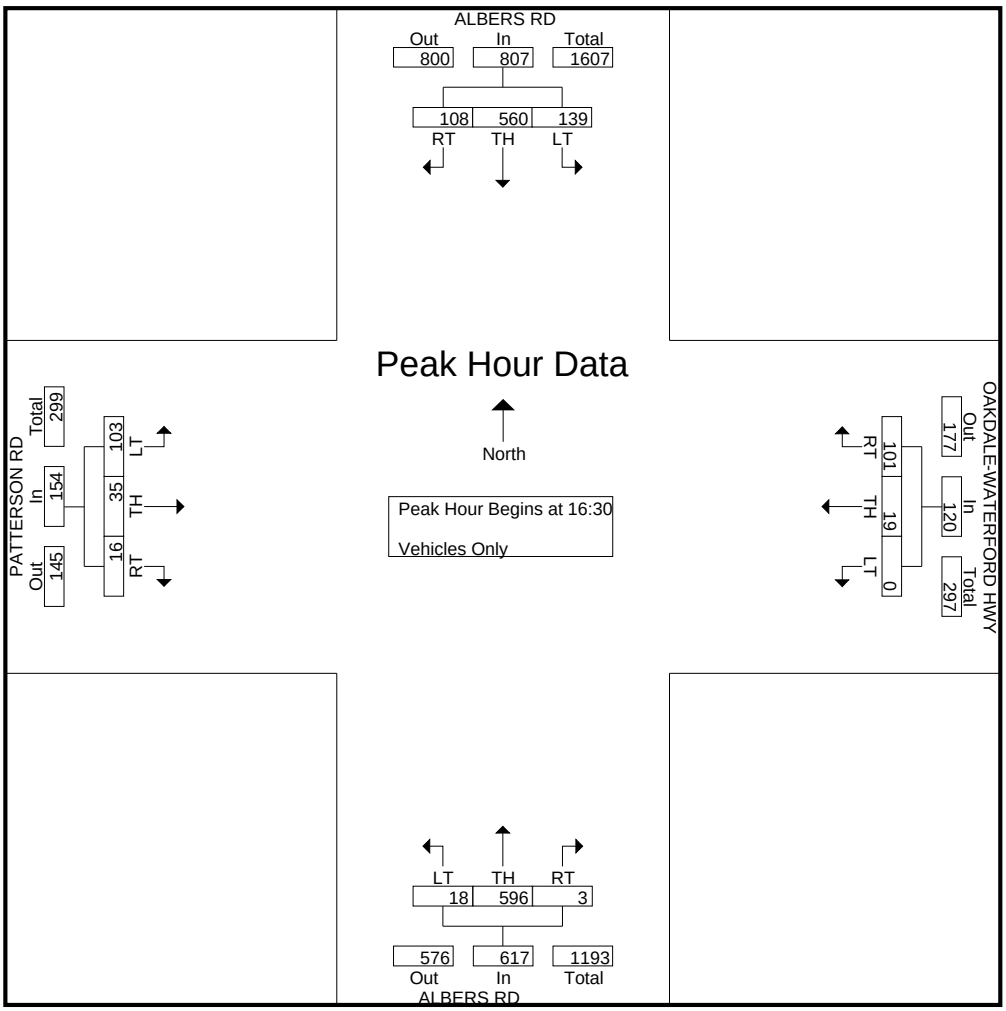
fp
Mietek 916-806-0250

File Name : albers-patterson-p
Site Code : 16
Start Date : 8/17/2010
Page No : 1

Groups Printed- Vehicles Only

	ALBERS RD Southbound				OAKDALE-WATERFORD HWY Westbound				ALBERS RD Northbound				PATTERSON RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	27	120	37	184	25	10	0	35	0	139	2	141	3	13	24	40	400
16:15	26	129	20	175	22	8	0	30	0	137	3	140	7	12	23	42	387
16:30	27	180	46	253	19	3	0	22	1	134	7	142	4	6	19	29	446
16:45	24	109	26	159	39	6	0	45	0	143	2	145	5	7	29	41	390
Total	104	538	129	771	105	27	0	132	1	553	14	568	19	38	95	152	1623
17:00	29	147	34	210	21	5	0	26	2	143	3	148	4	15	26	45	429
17:15	28	124	33	185	22	5	0	27	0	176	6	182	3	7	29	39	433
17:30	21	94	40	155	21	4	0	25	0	157	7	164	2	6	27	35	379
17:45	21	107	24	152	17	10	1	28	0	137	3	140	4	4	17	25	345
Total	99	472	131	702	81	24	1	106	2	613	19	634	13	32	99	144	1586
Grand Total	203	1010	260	1473	186	51	1	238	3	1166	33	1202	32	70	194	296	3209
Apprch %	13.8	68.6	17.7		78.2	21.4	0.4		0.2	97	2.7		10.8	23.6	65.5		
Total %	6.3	31.5	8.1	45.9	5.8	1.6	0	7.4	0.1	36.3	1	37.5	1	2.2	6	9.2	

	ALBERS RD Southbound				OAKDALE-WATERFORD HWY Westbound				ALBERS RD Northbound				PATTERSON RD Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	27	**180**	**46**	**253**	19	3	0	22	1	134	**7**	142	4	6	19	29	**446**
16:45	24	109	26	159	**39**	**6**	0	**45**	0	143	2	145	**5**	7	**29**	41	390
17:00	**29**	147	34	210	21	5	0	26	**2**	143	3	148	4	**15**	26	**45**	429
17:15	28	124	33	185	22	5	0	27	0	**176**	6	**182**	3	7	29	39	433
Total Volume	108	560	139	807	101	19	0	120	3	596	18	617	16	35	103	154	1698
% App. Total	13.4	69.4	17.2		84.2	15.8	0		0.5	96.6	2.9		10.4	22.7	66.9		
PHF	.931	.778	.755	.797	.647	.792	.000	.667	.375	.847	.643	.848	.800	.583	.888	.856	.952



MARKS TRAFFIC DATA

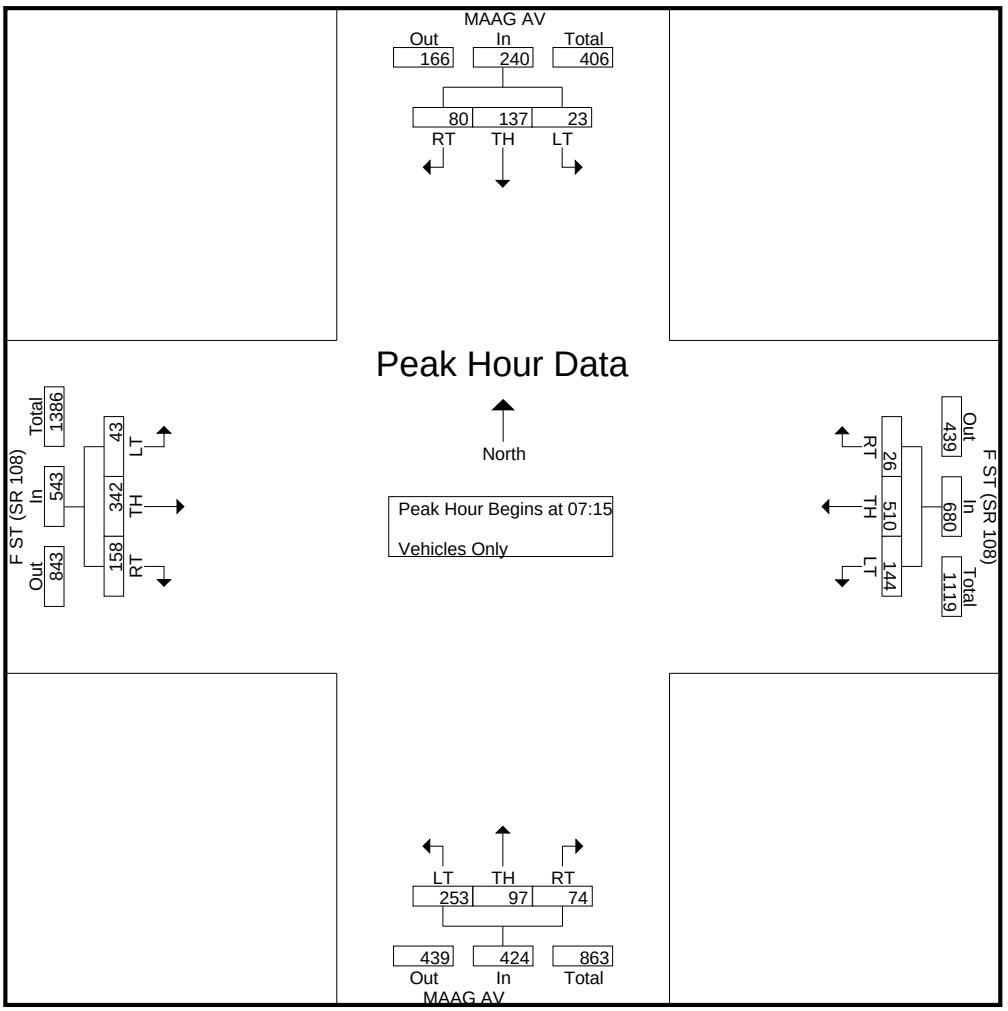
STANISLAUS COUNTY
City of Oakdale
fp
Mietek 916-806-0250

File Name : maag-108-a
Site Code : 17
Start Date : 8/18/2010
Page No : 1

Groups Printed- Vehicles Only

	MAAG AV Southbound				F ST (SR 108) Westbound				MAAG AV Northbound				F ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	10	21	4	35	4	116	29	149	15	4	20	39	17	61	6	84	307
07:15	20	42	7	69	9	162	35	206	14	26	46	86	27	73	7	107	468
07:30	17	50	4	71	2	137	56	195	19	33	80	132	72	101	13	186	584
07:45	26	32	4	62	9	116	47	172	28	23	83	134	42	84	11	137	505
Total	73	145	19	237	24	531	167	722	76	86	229	391	158	319	37	514	1864
08:00	17	13	8	38	6	95	6	107	13	15	44	72	17	84	12	113	330
08:15	12	8	9	29	13	111	10	134	14	8	33	55	24	103	5	132	350
08:30	15	11	2	28	3	125	7	135	16	11	25	52	26	101	12	139	354
08:45	14	14	8	36	6	126	15	147	17	18	34	69	25	100	14	139	391
Total	58	46	27	131	28	457	38	523	60	52	136	248	92	388	43	523	1425
Grand Total	131	191	46	368	52	988	205	1245	136	138	365	639	250	707	80	1037	3289
Apprch %	35.6	51.9	12.5		4.2	79.4	16.5		21.3	21.6	57.1		24.1	68.2	7.7		
Total %	4	5.8	1.4	11.2	1.6	30	6.2	37.9	4.1	4.2	11.1	19.4	7.6	21.5	2.4	31.5	

	MAAG AV Southbound				F ST (SR 108) Westbound				MAAG AV Northbound				F ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	20	42	7	69	**9**	**162**	35	**206**	14	26	46	86	27	73	7	107	468
07:30	17	**50**	4	**71**	2	137	**56**	195	19	**33**	80	132	**72**	**101**	**13**	**186**	**584**
07:45	**26**	32	4	62	9	116	47	172	**28**	23	**83**	**134**	42	84	11	137	505
08:00	17	13	**8**	38	6	95	6	107	13	15	44	72	17	84	12	113	330
Total Volume	80	137	23	240	26	510	144	680	74	97	253	424	158	342	43	543	1887
% App. Total	33.3	57.1	9.6		3.8	75	21.2		17.5	22.9	59.7		29.1	63	7.9		
PHF	.769	.685	.719	.845	.722	.787	.643	.825	.661	.735	.762	.791	.549	.847	.827	.730	.808



MARKS TRAFFIC DATA

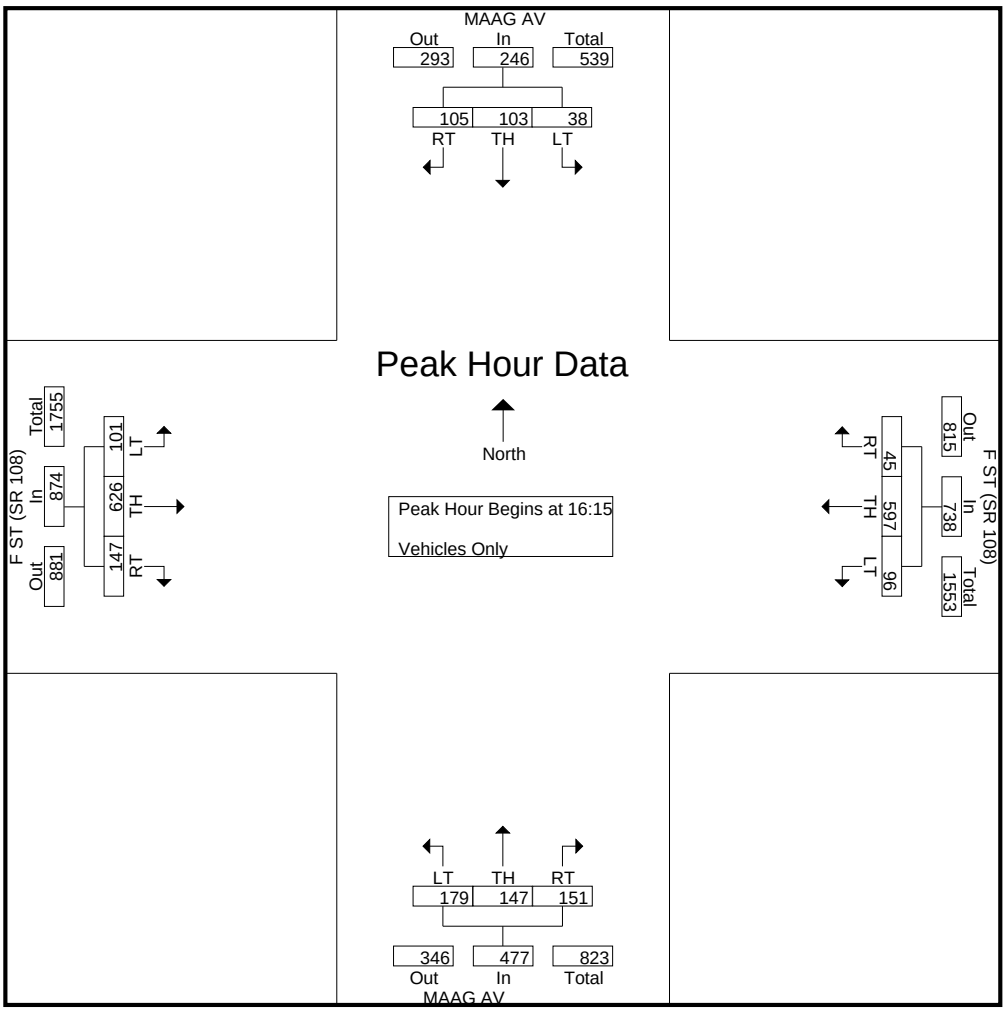
STANISLAUS COUNTY
City of Oakdale
fp
Mietek 916-806-0250

File Name : maag-108-p
Site Code : 17
Start Date : 8/18/2010
Page No : 1

Groups Printed- Vehicles Only

	MAAG AV Southbound				F ST (SR 108) Westbound				MAAG AV Northbound				F ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	22	27	7	56	10	162	38	210	35	47	37	119	52	140	29	221	606
16:15	37	20	4	61	18	147	22	187	35	33	45	113	37	151	26	214	575
16:30	22	27	19	68	7	140	28	175	45	38	43	126	37	152	28	217	586
16:45	24	28	9	61	10	153	19	182	29	38	46	113	34	151	22	207	563
Total	105	102	39	246	45	602	107	754	144	156	171	471	160	594	105	859	2330
17:00	22	28	6	56	10	157	27	194	42	38	45	125	39	172	25	236	611
17:15	21	23	11	55	7	118	32	157	49	39	29	117	52	154	22	228	557
17:30	19	34	11	64	10	164	26	200	36	43	38	117	45	125	23	193	574
17:45	33	28	16	77	10	145	39	194	46	28	39	113	42	141	21	204	588
Total	95	113	44	252	37	584	124	745	173	148	151	472	178	592	91	861	2330
Grand Total	200	215	83	498	82	1186	231	1499	317	304	322	943	338	1186	196	1720	4660
Apprch %	40.2	43.2	16.7		5.5	79.1	15.4		33.6	32.2	34.1		19.7	69	11.4		
Total %	4.3	4.6	1.8	10.7	1.8	25.5	5	32.2	6.8	6.5	6.9	20.2	7.3	25.5	4.2	36.9	

	MAAG AV Southbound				F ST (SR 108) Westbound				MAAG AV Northbound				F ST (SR 108) Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	**37**	20	4	61	**18**	147	22	187	35	33	45	113	37	151	26	214	575
16:30	22	27	**19**	**68**	7	140	**28**	175	**45**	**38**	43	**126**	37	152	**28**	217	586
16:45	24	**28**	9	61	10	153	19	182	29	38	**46**	113	34	151	22	207	563
17:00	22	28	6	56	10	**157**	27	**194**	42	38	45	125	**39**	**172**	25	**236**	**611**
Total Volume	105	103	38	246	45	597	96	738	151	147	179	477	147	626	101	874	2335
% App. Total	42.7	41.9	15.4		6.1	80.9	13		31.7	30.8	37.5		16.8	71.6	11.6		
PHF	.709	.920	.500	.904	.625	.951	.857	.951	.839	.967	.973	.946	.942	.910	.902	.926	.955



MARKS TRAFFIC DATA

STANISLAUS COUNTY
PATTERSON RD. 250' E/O ROSELLE AV.

Site Code: 49
PATTERSON49W

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
09/09/08	1	25	7	0	0	0	0	0	0	0	0	0	0	0	33
01:00	0	19	4	0	1	0	0	0	0	0	0	0	0	1	25
02:00	0	12	5	0	0	0	0	0	0	0	0	0	0	0	17
03:00	0	15	7	0	0	0	0	0	0	0	0	0	0	0	22
04:00	0	30	9	0	0	0	0	0	2	0	0	0	0	0	41
05:00	2	66	29	0	3	0	0	1	1	0	0	0	1	0	103
06:00	0	102	52	1	13	0	0	4	2	0	0	0	0	2	176
07:00	0	264	100	3	13	1	0	4	5	0	2	0	0	1	393
08:00	2	218	100	1	11	1	0	4	4	0	1	0	0	2	344
09:00	1	152	80	1	9	1	0	3	4	0	3	0	0	0	254
10:00	3	175	70	2	17	0	0	5	6	0	2	0	0	0	280
11:00	6	234	88	2	19	0	0	3	2	0	2	0	1	2	359
12 PM	3	261	118	5	19	0	0	2	3	0	2	0	0	3	416
13:00	2	218	73	0	12	2	0	4	4	0	2	0	0	1	318
14:00	4	320	112	4	7	1	0	2	2	0	2	0	0	0	454
15:00	5	372	121	2	9	2	0	2	1	0	1	0	0	0	515
16:00	10	370	130	3	22	0	0	3	4	1	3	0	1	1	548
17:00	3	331	129	1	14	0	0	5	1	0	0	0	0	0	484
18:00	7	299	92	2	13	0	0	1	1	0	0	0	0	0	415
19:00	2	241	95	0	9	0	0	1	0	0	0	0	0	0	348
20:00	0	205	61	1	3	0	0	0	0	0	0	0	0	0	270
21:00	0	139	30	0	3	0	0	0	0	0	0	0	0	0	172
22:00	0	80	20	0	2	0	0	0	0	0	0	0	0	1	103
23:00	1	52	19	0	2	0	0	0	0	0	1	0	0	0	75
Total	52	4200	1551	28	201	8	0	44	42	1	21	0	3	14	6165
Percent	0.8%	68.1%	25.2%	0.5%	3.3%	0.1%	0.0%	0.7%	0.7%	0.0%	0.3%	0.0%	0.0%	0.2%	
AM Peak	11:00	07:00	07:00	07:00	11:00	07:00		10:00	10:00		09:00		05:00	06:00	
Vol.	6	264	100	3	19	1		5	6		3		1	2	
PM Peak	16:00	15:00	16:00	12:00	16:00	13:00		17:00	13:00	16:00	16:00		16:00	12:00	
Vol.	10	372	130	5	22	2		5	4	1	3		1	3	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
PATTERSON RD. 250' E/O ROSELLE AV.

Site Code: 49
PATTERSON49W

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
09/10/08	0	21	6	0	0	0	0	0	0	0	0	0	0	0	27
01:00	1	12	4	0	0	0	0	0	0	0	0	0	0	0	17
02:00	0	5	3	0	0	0	0	0	0	0	0	0	0	0	8
03:00	0	15	7	0	0	0	0	0	0	0	1	0	0	0	23
04:00	1	29	9	0	1	0	0	0	1	0	0	0	0	0	41
05:00	3	72	33	0	3	0	0	0	1	0	0	0	0	0	112
06:00	1	97	52	2	14	0	0	3	1	0	1	0	0	1	172
07:00	2	238	91	1	18	0	0	9	8	0	2	0	0	1	370
08:00	0	198	97	2	7	3	0	4	3	0	1	0	1	0	316
09:00	1	166	62	2	5	2	0	1	5	0	2	0	0	0	246
10:00	1	179	79	2	18	1	0	2	4	0	2	0	0	1	289
11:00	1	238	111	4	14	2	0	2	6	0	2	0	0	1	381
12 PM	3	240	100	2	22	1	0	4	2	0	1	0	0	0	375
13:00	3	248	71	3	13	0	0	3	3	0	1	0	0	1	346
14:00	2	287	122	2	8	1	1	9	2	0	3	0	0	3	440
15:00	6	395	155	0	21	0	0	4	4	0	3	0	0	1	589
16:00	3	386	129	4	14	0	1	6	5	0	1	0	0	1	550
17:00	4	339	124	1	19	0	0	3	0	0	3	0	0	2	495
18:00	7	317	105	3	15	0	0	4	0	0	0	0	0	1	452
19:00	2	273	82	0	7	0	0	3	0	0	0	0	0	1	368
20:00	0	204	87	2	6	0	0	1	0	0	0	0	0	0	300
21:00	0	125	41	0	1	0	0	0	0	0	0	0	0	0	167
22:00	0	75	22	0	0	1	0	0	0	0	0	0	1	0	99
23:00	1	59	16	2	1	0	0	0	0	0	0	0	0	0	79
Total	42	4218	1608	32	207	11	2	58	45	0	23	0	2	14	6262
Percent	0.7%	67.4%	25.7%	0.5%	3.3%	0.2%	0.0%	0.9%	0.7%	0.0%	0.4%	0.0%	0.0%	0.2%	
AM Peak	05:00	07:00	11:00	11:00	07:00	08:00		07:00	07:00		07:00		08:00	06:00	
Vol.	3	238	111	4	18	3		9	8		2		1	1	
PM Peak	18:00	15:00	15:00	16:00	12:00	12:00	14:00	14:00	16:00		14:00		22:00	14:00	
Vol.	7	395	155	4	22	1	1	9	5		3		1	3	
Grand Total	94	8418	3159	60	408	19	2	102	87	1	44	0	5	28	12427
Percent	0.8%	67.7%	25.4%	0.5%	3.3%	0.2%	0.0%	0.8%	0.7%	0.0%	0.4%	0.0%	0.0%	0.2%	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
CLARIBEL RD. 600' E/O LANGWORTH

Site Code: 7
CLARIBEL7

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
08/20/08	0	14	2	0	0	0	0	0	0	0	0	0	0	0	16
01:00	0	8	3	0	0	0	0	0	0	0	0	0	0	0	11
02:00	0	5	7	1	1	0	0	0	0	0	0	0	0	0	14
03:00	0	10	4	0	1	0	0	0	1	0	0	0	0	0	16
04:00	2	16	3	0	0	0	0	1	3	0	0	0	0	0	25
05:00	3	48	38	1	4	1	0	1	0	0	0	0	0	0	96
06:00	1	95	50	0	3	0	0	1	5	0	1	0	0	0	156
07:00	6	131	52	2	10	1	0	2	4	0	0	0	0	0	208
08:00	0	80	35	1	7	3	0	5	1	0	0	0	0	0	132
09:00	2	84	51	2	13	3	0	5	4	0	0	0	0	1	165
10:00	3	88	40	0	13	2	0	1	4	0	0	0	0	0	151
11:00	3	87	44	3	13	5	0	2	5	0	1	0	0	1	164
12 PM	2	116	52	2	24	2	0	4	4	0	0	0	0	0	206
13:00	5	112	43	1	15	4	1	4	2	0	1	0	0	1	189
14:00	3	124	58	0	16	0	0	2	7	0	0	0	1	0	211
15:00	3	154	57	3	13	1	0	3	5	0	0	0	0	0	239
16:00	6	159	55	0	14	1	0	3	5	0	0	0	0	0	243
17:00	4	205	68	0	13	1	0	1	3	0	0	0	0	0	295
18:00	5	111	50	1	13	0	0	1	0	0	0	0	0	1	182
19:00	6	117	39	0	9	3	0	0	2	0	0	0	0	0	176
20:00	2	85	37	0	10	0	0	2	1	1	0	0	0	0	138
21:00	1	66	20	0	4	0	0	0	2	0	0	0	0	1	94
22:00	0	52	13	0	1	0	0	0	1	0	0	0	0	0	67
23:00	1	26	6	1	0	0	0	1	0	0	0	0	0	0	35
Total	58	1993	827	18	197	27	1	39	59	1	3	0	1	5	3229
Percent	1.8%	61.7%	25.6%	0.6%	6.1%	0.8%	0.0%	1.2%	1.8%	0.0%	0.1%	0.0%	0.0%	0.2%	
AM Peak	07:00	07:00	07:00	11:00	09:00	11:00		08:00	06:00		06:00			09:00	
Vol.	6	131	52	3	13	5		5	5		1			1	
PM Peak	16:00	17:00	17:00	15:00	12:00	13:00	13:00	12:00	14:00	20:00	13:00		14:00	13:00	
Vol.	6	205	68	3	24	4	1	4	7	1	1		1	1	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
CLARIBEL RD. 600' E/O LANGWORTH

Site Code: 7
CLARIBEL7

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
08/21/08	0	19	5	0	1	0	0	0	0	0	0	0	0	0	25
01:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
02:00	0	10	7	0	0	0	0	0	1	0	0	0	0	0	18
03:00	0	5	2	0	1	0	0	0	0	0	0	0	0	0	8
04:00	0	19	9	0	0	0	0	0	2	0	0	0	0	0	30
05:00	3	62	36	1	2	0	0	1	6	0	1	0	0	0	112
06:00	1	85	45	2	9	1	0	0	2	0	0	0	0	0	145
07:00	4	134	64	0	9	0	0	3	3	0	0	0	0	0	217
08:00	3	75	43	1	7	2	0	1	7	0	0	0	0	0	139
09:00	0	67	52	2	15	2	0	4	4	0	0	0	0	0	146
10:00	6	79	33	2	15	1	0	4	6	0	2	0	0	1	149
11:00	3	106	45	2	13	1	0	5	7	1	1	0	0	0	184
12 PM	1	91	44	0	14	1	0	3	4	0	0	0	0	1	159
13:00	2	125	65	1	22	3	0	3	3	0	0	0	0	0	224
14:00	3	128	54	1	14	3	0	4	3	0	1	0	0	0	211
15:00	3	132	51	1	11	1	0	3	3	0	0	0	0	0	205
16:00	9	168	56	0	20	1	0	3	0	0	0	0	0	1	258
17:00	1	180	54	0	13	0	0	1	4	0	0	0	0	0	253
18:00	2	110	60	1	9	1	0	2	0	0	0	0	0	0	185
19:00	2	100	53	0	5	0	0	3	1	0	1	0	0	1	166
20:00	6	102	31	1	5	0	0	2	0	0	0	0	0	0	147
21:00	0	81	32	0	7	0	0	0	0	0	0	0	0	0	120
22:00	0	62	21	0	2	0	0	0	0	0	0	0	0	0	85
23:00	0	22	5	0	2	1	0	0	0	0	0	0	0	0	30
Total	49	1968	867	15	196	18	0	42	56	1	6	0	0	4	3222
Percent	1.5%	61.1%	26.9%	0.5%	6.1%	0.6%	0.0%	1.3%	1.7%	0.0%	0.2%	0.0%	0.0%	0.1%	
AM Peak	10:00	07:00	07:00	06:00	09:00	08:00		11:00	08:00	11:00	10:00			10:00	
Vol.	6	134	64	2	15	2		5	7	1	2			1	
PM Peak	16:00	17:00	13:00	13:00	13:00	13:00		14:00	12:00		14:00			12:00	
Vol.	9	180	65	1	22	3		4	4		1			1	
Grand Total	107	3961	1694	33	393	45	1	81	115	2	9	0	1	9	6451
Percent	1.7%	61.4%	26.3%	0.5%	6.1%	0.7%	0.0%	1.3%	1.8%	0.0%	0.1%	0.0%	0.0%	0.1%	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
CLARIBEL RD. 600' E/O LANGWORTH

Site Code: 7
CLARIBEL7

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
08/20/08	0	15	4	1	0	0	0	0	0	0	0	0	0	0	20
01:00	0	14	2	0	0	0	0	0	0	0	0	0	0	0	16
02:00	0	9	1	0	0	2	0	0	0	0	0	0	0	0	12
03:00	1	5	7	0	0	0	0	0	0	0	0	0	0	0	13
04:00	1	9	7	0	2	0	0	0	0	0	1	0	0	0	20
05:00	6	44	17	0	1	0	0	1	1	0	0	0	0	0	70
06:00	2	75	35	1	12	1	0	1	0	0	0	0	0	1	128
07:00	7	183	44	1	12	0	0	3	6	0	1	0	0	1	258
08:00	0	108	43	2	8	0	0	4	3	0	0	0	0	0	168
09:00	0	93	37	1	23	0	1	2	1	0	0	0	0	0	158
10:00	3	99	51	3	8	1	0	2	3	0	0	0	0	0	170
11:00	3	95	60	2	13	2	0	4	6	0	1	0	0	1	187
12 PM	0	88	45	1	13	0	0	2	4	0	0	0	0	1	154
13:00	4	102	38	1	18	0	0	3	0	0	2	0	0	0	168
14:00	4	133	49	1	15	0	0	2	2	0	0	0	0	0	206
15:00	1	141	75	6	16	3	0	3	2	0	0	0	0	0	247
16:00	4	157	61	1	11	0	0	2	1	0	0	0	0	0	237
17:00	6	119	61	1	8	0	0	2	2	0	0	0	0	1	200
18:00	3	78	32	1	7	0	0	2	1	0	0	0	0	0	124
19:00	0	81	31	0	5	0	0	2	1	0	0	0	0	0	120
20:00	1	51	23	0	4	0	0	0	1	0	0	0	0	1	81
21:00	1	54	17	0	5	0	0	0	1	0	0	0	0	0	78
22:00	0	34	12	0	2	0	0	1	0	0	0	0	0	0	49
23:00	2	19	6	0	0	0	0	0	0	0	0	0	0	0	27
Total	49	1806	758	23	183	9	1	36	35	0	5	0	0	6	2911
Percent	1.7%	62.0%	26.0%	0.8%	6.3%	0.3%	0.0%	1.2%	1.2%	0.0%	0.2%	0.0%	0.0%	0.2%	
AM Peak	07:00	07:00	11:00	10:00	09:00	02:00	09:00	08:00	07:00		04:00			06:00	
Vol.	7	183	60	3	23	2	1	4	6		1			1	
PM Peak	17:00	16:00	15:00	15:00	13:00	15:00		13:00	12:00		13:00			12:00	
Vol.	6	157	75	6	18	3		3	4		2			1	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
CLARIBEL RD. 600' E/O LANGWORTH

Site Code: 7
CLARIBEL7

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
08/21/08	0	18	3	0	0	0	0	0	0	0	0	0	0	0	21
01:00	1	17	5	1	0	0	0	0	0	0	0	0	0	0	24
02:00	1	4	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	4	6	0	2	0	0	0	0	0	0	0	0	0	12
04:00	0	14	5	0	2	1	0	0	0	0	0	0	0	0	22
05:00	2	40	22	0	4	0	0	1	2	0	0	0	0	0	71
06:00	2	81	42	1	11	1	0	3	3	0	0	0	0	1	145
07:00	6	161	47	1	13	1	0	10	6	0	0	0	0	0	245
08:00	2	121	51	2	11	1	1	3	5	0	0	0	0	1	198
09:00	1	90	42	3	8	0	0	0	5	0	0	0	0	0	149
10:00	0	92	43	1	12	1	0	4	2	0	0	0	0	0	155
11:00	3	87	49	0	19	1	0	5	9	0	0	0	0	2	175
12 PM	1	94	51	1	13	0	0	1	4	0	1	0	0	0	166
13:00	2	123	33	2	9	1	0	4	3	0	0	0	0	0	177
14:00	5	126	62	3	22	0	0	4	0	0	0	0	0	1	223
15:00	4	161	70	3	17	1	1	4	3	0	0	0	0	1	265
16:00	3	154	75	2	16	2	0	4	2	0	0	0	0	2	260
17:00	4	124	61	1	17	1	0	0	2	0	0	0	0	0	210
18:00	1	86	48	0	9	1	0	2	0	0	1	0	0	1	149
19:00	0	76	32	0	4	0	0	1	0	0	0	0	0	0	113
20:00	3	73	29	0	2	1	0	0	0	0	0	0	0	0	108
21:00	1	48	10	0	3	0	0	1	0	0	0	0	0	0	63
22:00	0	35	12	0	1	0	0	1	1	0	0	0	0	0	50
23:00	1	26	10	0	0	0	0	0	1	0	0	0	0	0	38
Total	43	1855	808	21	195	13	2	48	48	0	2	0	0	9	3044
Percent	1.4%	60.9%	26.5%	0.7%	6.4%	0.4%	0.1%	1.6%	1.6%	0.0%	0.1%	0.0%	0.0%	0.3%	
AM Peak	07:00	07:00	08:00	09:00	11:00	04:00	08:00	07:00	11:00					11:00	
Vol.	6	161	51	3	19	1	1	10	9					2	
PM Peak	14:00	15:00	16:00	14:00	14:00	16:00	15:00	13:00	12:00		12:00			16:00	
Vol.	5	161	75	3	22	2	1	4	4		1			2	
Grand Total	92	3661	1566	44	378	22	3	84	83	0	7	0	0	15	5955
Percent	1.5%	61.5%	26.3%	0.7%	6.3%	0.4%	0.1%	1.4%	1.4%	0.0%	0.1%	0.0%	0.0%	0.3%	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
ROSELLE AV. 600' N/O CLARIBEL RD.

Site Code: 26
ROSELLE26

SOUTHBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
09/09/08	2	18	9	0	1	0	0	0	0	0	0	0	0	0	30
01:00	0	11	5	0	0	0	0	0	0	0	0	0	0	0	16
02:00	0	9	1	0	0	0	0	0	0	0	0	0	0	0	10
03:00	0	12	9	0	1	0	0	0	0	0	0	0	0	0	22
04:00	0	34	13	0	3	0	0	0	0	0	0	0	0	0	50
05:00	5	87	40	0	5	0	0	1	0	0	0	0	0	0	138
06:00	4	137	55	0	19	0	0	0	1	0	0	0	0	0	216
07:00	2	213	74	4	6	0	0	0	0	0	1	0	0	1	301
08:00	3	176	74	0	6	1	0	2	1	0	1	0	0	1	265
09:00	0	93	45	0	7	1	0	2	1	0	1	0	0	0	150
10:00	1	85	42	0	10	0	0	0	3	0	1	0	0	0	142
11:00	1	109	24	1	8	1	1	3	1	0	0	0	0	0	149
12 PM	1	134	43	1	6	0	0	1	2	0	1	0	0	2	191
13:00	1	139	71	0	9	2	0	1	1	0	3	0	0	0	227
14:00	1	201	84	1	6	3	0	0	0	0	1	0	0	0	297
15:00	7	184	68	1	12	0	0	1	0	0	0	0	0	1	274
16:00	5	170	70	1	11	1	0	2	1	0	0	0	0	1	262
17:00	4	223	79	0	2	5	0	1	0	0	0	0	0	1	315
18:00	2	162	59	1	3	1	0	0	0	0	0	0	0	1	229
19:00	1	122	43	1	3	0	0	3	0	0	0	0	0	0	173
20:00	1	110	34	0	4	0	0	0	0	0	0	0	0	1	150
21:00	0	79	21	0	2	0	0	0	0	0	0	0	0	0	102
22:00	2	50	12	0	2	0	0	0	0	0	0	0	0	0	66
23:00	1	30	4	0	0	0	0	0	0	0	0	0	0	0	35
Total	44	2588	979	11	126	15	1	17	11	0	9	0	0	9	3810
Percent	1.2%	67.9%	25.7%	0.3%	3.3%	0.4%	0.0%	0.4%	0.3%	0.0%	0.2%	0.0%	0.0%	0.2%	
AM Peak	05:00	07:00	07:00	07:00	06:00	08:00	11:00	11:00	10:00		07:00			07:00	
Vol.	5	213	74	4	19	1	1	3	3		1			1	
PM Peak	15:00	17:00	14:00	12:00	15:00	17:00		19:00	12:00		13:00			12:00	
Vol.	7	223	84	1	12	5		3	2		3			2	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
ROSELLE AV. 600' N/O CLARIBEL RD.

Site Code: 26
ROSELLE26

SOUTHBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
09/10/08	0	13	4	0	1	0	0	0	0	0	0	0	0	0	18
01:00	1	7	3	0	0	0	0	0	0	0	0	0	0	0	11
02:00	0	9	2	0	0	0	0	0	0	0	0	0	0	0	11
03:00	0	13	10	0	0	0	0	0	0	0	0	0	0	0	23
04:00	0	35	10	0	2	0	0	0	1	0	0	0	0	0	48
05:00	3	94	38	0	2	0	0	1	0	0	0	0	0	0	138
06:00	2	141	53	1	13	0	0	1	0	0	0	0	0	0	211
07:00	4	269	81	4	18	5	0	5	4	0	0	0	0	1	391
08:00	2	181	60	0	5	2	0	0	2	0	0	0	0	1	253
09:00	1	118	46	0	6	1	0	1	3	0	0	0	0	0	176
10:00	1	110	47	0	3	0	0	2	1	0	0	0	0	0	164
11:00	4	94	49	2	9	1	0	1	0	0	1	0	0	0	161
12 PM	2	123	49	0	5	2	0	0	2	0	1	0	0	0	184
13:00	1	173	49	0	7	0	0	3	0	0	1	0	0	0	234
14:00	3	219	70	3	12	1	1	2	1	0	1	0	0	0	313
15:00	6	175	67	2	6	2	0	0	3	0	0	0	0	1	262
16:00	2	180	70	1	7	3	1	2	3	0	0	0	0	0	269
17:00	5	208	70	0	6	2	0	1	0	0	1	0	0	0	293
18:00	7	169	55	1	5	2	0	4	1	0	0	0	0	0	244
19:00	3	111	40	0	4	0	0	0	0	0	0	0	0	1	159
20:00	0	113	31	0	3	0	0	0	0	0	0	0	0	0	147
21:00	1	102	26	0	1	0	0	0	0	0	0	0	0	0	130
22:00	3	41	13	0	0	1	0	0	0	0	0	0	0	0	58
23:00	1	32	5	0	0	0	0	0	0	0	0	0	0	0	38
Total	52	2730	948	14	115	22	2	23	21	0	5	0	0	4	3936
Percent	1.3%	69.4%	24.1%	0.4%	2.9%	0.6%	0.1%	0.6%	0.5%	0.0%	0.1%	0.0%	0.0%	0.1%	
AM Peak	07:00	07:00	07:00	07:00	07:00	07:00		07:00	07:00		11:00			07:00	
Vol.	4	269	81	4	18	5		5	4		1			1	
PM Peak	18:00	14:00	14:00	14:00	14:00	16:00	14:00	18:00	15:00		12:00			15:00	
Vol.	7	219	70	3	12	3	1	4	3		1			1	
Grand Total	96	5318	1927	25	241	37	3	40	32	0	14	0	0	13	7746
Percent	1.2%	68.7%	24.9%	0.3%	3.1%	0.5%	0.0%	0.5%	0.4%	0.0%	0.2%	0.0%	0.0%	0.2%	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
ROSELLE AV. 600' N/O CLARIBEL RD.

Site Code: 26
ROSELLE26

NORTHBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
09/09/08	1	29	10	0	0	0	0	0	0	0	0	0	0	0	40
01:00	0	8	7	0	0	0	0	0	0	0	0	0	0	0	15
02:00	1	15	2	0	0	0	0	0	0	0	0	0	0	0	18
03:00	0	3	4	0	0	0	0	0	0	0	0	0	0	0	7
04:00	1	6	7	0	1	1	0	0	0	0	0	0	0	0	16
05:00	3	49	8	0	1	0	0	0	1	0	0	0	0	0	62
06:00	2	69	34	0	4	1	0	0	1	0	0	0	0	1	112
07:00	3	127	57	2	10	1	0	0	1	0	0	0	0	0	201
08:00	5	117	51	5	7	0	0	1	1	0	1	0	0	2	190
09:00	1	74	47	3	7	3	0	1	3	0	0	0	0	0	139
10:00	2	77	33	3	11	1	0	2	1	0	0	0	0	0	130
11:00	0	85	31	5	9	1	0	0	2	0	1	0	0	0	134
12 PM	1	111	48	4	8	1	1	0	0	0	0	0	0	0	174
13:00	2	130	55	5	3	2	0	0	0	0	1	0	0	0	198
14:00	6	203	94	5	16	2	0	1	2	0	0	0	0	0	329
15:00	1	186	95	3	19	0	1	1	1	0	0	0	0	0	307
16:00	11	192	85	0	14	1	0	2	0	0	0	0	0	1	306
17:00	8	241	86	0	11	0	0	0	0	0	0	0	0	2	348
18:00	6	194	62	0	7	1	0	0	0	0	0	0	0	0	270
19:00	1	162	63	0	5	0	0	0	0	0	1	0	0	0	232
20:00	2	150	54	0	8	0	0	0	0	0	0	0	0	0	214
21:00	0	105	25	0	1	0	0	1	0	0	0	0	0	0	132
22:00	1	90	20	0	2	0	0	0	0	0	0	0	0	0	113
23:00	1	39	11	0	0	0	0	0	0	0	0	0	0	0	51
Total	59	2462	989	35	144	15	2	9	13	0	4	0	0	6	3738
Percent	1.6%	65.9%	26.5%	0.9%	3.9%	0.4%	0.1%	0.2%	0.3%	0.0%	0.1%	0.0%	0.0%	0.2%	
AM Peak	08:00	07:00	07:00	08:00	10:00	09:00		10:00	09:00		08:00			08:00	
Vol.	5	127	57	5	11	3		2	3		1			2	
PM Peak	16:00	17:00	15:00	13:00	15:00	13:00	12:00	16:00	14:00		13:00			17:00	
Vol.	11	241	95	5	19	2	1	2	2		1			2	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
ROSELLE AV. 600' N/O CLARIBEL RD.

Site Code: 26
ROSELLE26

NORTHBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
09/10/08	0	29	6	0	0	0	0	0	0	0	0	0	0	0	35
01:00	0	14	2	0	0	0	0	0	0	0	0	0	0	0	16
02:00	1	7	3	0	0	0	0	0	0	0	0	0	0	0	11
03:00	0	2	5	0	1	0	0	0	0	0	0	0	0	0	8
04:00	0	10	5	0	2	0	0	0	0	0	0	0	0	0	17
05:00	2	46	11	0	2	1	0	0	0	0	0	0	0	0	62
06:00	2	65	37	0	2	0	0	0	2	0	0	0	0	0	108
07:00	4	157	66	1	15	1	0	0	2	0	0	0	0	2	248
08:00	4	98	52	1	8	3	0	2	2	0	0	0	0	0	170
09:00	2	88	39	2	10	0	0	0	1	0	2	0	0	0	144
10:00	5	70	40	0	7	0	0	1	0	0	3	0	0	0	126
11:00	4	76	43	1	2	0	0	0	2	0	2	0	0	0	130
12 PM	2	115	29	2	8	1	0	0	2	0	0	0	0	1	160
13:00	0	124	49	0	10	0	0	1	1	0	0	0	0	0	185
14:00	5	215	94	4	19	0	0	1	1	0	0	0	0	1	340
15:00	2	203	86	3	17	1	1	1	2	0	0	0	0	0	316
16:00	8	189	75	0	9	0	0	0	3	0	0	0	0	4	288
17:00	8	260	85	1	8	0	0	1	0	0	0	0	0	0	363
18:00	7	201	68	1	6	0	0	0	1	0	0	0	0	0	284
19:00	5	137	57	0	3	0	0	0	0	0	0	0	0	0	202
20:00	4	140	39	0	4	0	0	1	0	0	0	0	0	0	188
21:00	2	127	36	0	5	0	0	0	0	0	0	0	0	0	170
22:00	2	80	28	0	1	0	0	0	0	0	0	0	0	0	111
23:00	1	56	16	0	1	1	0	0	0	0	0	0	0	0	75
Total	70	2509	971	16	140	8	1	8	19	0	7	0	0	8	3757
Percent	1.9%	66.8%	25.8%	0.4%	3.7%	0.2%	0.0%	0.2%	0.5%	0.0%	0.2%	0.0%	0.0%	0.2%	
AM Peak	10:00	07:00	07:00	09:00	07:00	08:00		08:00	06:00		10:00			07:00	
Vol.	5	157	66	2	15	3		2	2		3			2	
PM Peak	16:00	17:00	14:00	14:00	14:00	12:00	15:00	13:00	16:00					16:00	
Vol.	8	260	94	4	19	1	1	1	3					4	
Grand Total	129	4971	1960	51	284	23	3	17	32	0	11	0	0	14	7495
Percent	1.7%	66.3%	26.2%	0.7%	3.8%	0.3%	0.0%	0.2%	0.4%	0.0%	0.1%	0.0%	0.0%	0.2%	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
ROSELLE AV. 500' S/O CLARIBEL RD.

Site Code: 39
ROSELLE39

SOUTHBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
10/01/08	0	22	2	0	0	0	0	0	0	0	0	0	0	0	24
01:00	0	10	2	0	0	0	0	0	0	0	0	0	0	0	12
02:00	0	8	3	0	0	0	0	0	0	0	0	0	0	0	11
03:00	0	8	8	0	0	0	0	0	0	0	0	0	0	0	16
04:00	1	18	7	0	0	0	0	0	0	0	0	0	0	0	26
05:00	4	39	21	0	2	0	0	0	0	0	0	0	0	0	66
06:00	4	126	32	0	13	0	0	0	0	0	0	0	0	1	176
07:00	7	289	96	5	12	2	0	3	0	0	0	0	0	5	419
08:00	3	137	50	0	6	1	1	0	0	0	0	0	0	1	199
09:00	5	91	44	1	7	0	0	1	0	0	0	0	0	0	149
10:00	5	104	40	0	6	1	0	2	0	0	0	0	0	0	158
11:00	3	105	49	1	10	0	0	3	0	0	0	0	0	1	172
12 PM	5	123	34	0	4	0	0	0	0	0	0	0	0	1	167
13:00	3	142	55	0	8	0	1	0	0	0	0	0	0	0	209
14:00	6	175	60	1	8	2	1	0	0	0	0	0	0	3	256
15:00	4	131	57	4	8	5	0	0	0	0	0	0	0	4	213
16:00	6	166	59	0	7	5	0	0	1	0	0	0	0	2	246
17:00	4	153	40	3	5	1	0	1	0	0	0	0	0	3	210
18:00	8	155	37	0	4	1	0	1	0	0	0	0	0	1	207
19:00	3	169	44	0	3	1	0	0	0	0	0	0	0	1	221
20:00	1	125	34	0	4	0	0	0	0	0	0	0	0	0	164
21:00	1	106	31	0	1	0	0	0	0	0	0	0	0	0	139
22:00	0	59	16	0	0	0	0	0	0	0	0	0	0	0	75
23:00	1	34	2	0	1	0	0	0	0	0	0	0	0	0	38
Total	74	2495	823	15	109	19	3	11	1	0	0	0	0	23	3573
Percent	2.1%	69.8%	23.0%	0.4%	3.1%	0.5%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	
AM Peak	07:00	07:00	07:00	07:00	06:00	07:00	08:00	07:00						07:00	
Vol.	7	289	96	5	13	2	1	3						5	
PM Peak	18:00	14:00	14:00	15:00	13:00	15:00	13:00	17:00	16:00					15:00	
Vol.	8	175	60	4	8	5	1	1	1					4	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
ROSELLE AV. 500' S/O CLARIBEL RD.

Site Code: 39
ROSELLE39

SOUTHBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
10/02/08	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
01:00	0	3	4	0	0	0	0	0	0	0	0	0	0	0	7
02:00	0	13	3	0	0	0	0	0	0	0	0	0	0	0	16
03:00	0	6	9	0	0	0	0	0	0	0	0	0	0	0	15
04:00	0	21	5	0	0	0	0	0	0	0	0	0	0	0	26
05:00	6	43	17	0	3	0	0	0	0	0	0	0	0	0	69
06:00	6	126	34	0	12	0	0	0	0	0	0	0	0	0	178
07:00	4	284	88	5	14	2	0	2	0	0	0	0	0	3	402
08:00	2	139	49	0	7	2	0	3	0	0	0	0	0	1	203
09:00	3	77	39	1	9	1	0	2	1	0	0	0	0	0	133
10:00	3	103	34	0	5	4	0	1	0	0	0	0	0	0	150
11:00	3	119	50	0	4	1	0	1	0	0	0	0	0	0	178
12 PM	5	121	42	0	5	3	0	1	0	0	0	0	0	0	177
13:00	5	169	52	1	8	2	0	1	1	0	0	0	0	0	239
14:00	6	180	50	1	8	5	0	2	0	0	0	0	0	5	257
15:00	8	139	64	6	5	1	0	1	0	0	0	0	0	4	228
16:00	5	165	62	0	10	0	0	2	0	0	0	0	0	0	244
17:00	4	156	49	3	5	1	0	1	0	0	0	0	0	3	222
18:00	2	174	37	0	5	3	0	0	0	0	0	0	0	2	223
19:00	2	128	41	0	3	1	0	0	0	0	0	0	0	1	176
20:00	1	137	37	0	2	1	0	0	0	0	0	0	0	0	178
21:00	0	105	19	0	4	0	0	1	0	0	0	0	0	0	129
22:00	0	52	15	0	0	0	0	0	0	0	0	0	0	0	67
23:00	1	45	5	0	1	0	0	0	0	0	0	0	0	0	52
Total	66	2512	806	17	110	27	0	18	2	0	0	0	0	19	3577
Percent	1.8%	70.2%	22.5%	0.5%	3.1%	0.8%	0.0%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.5%	
AM Peak	05:00	07:00	07:00	07:00	07:00	10:00		08:00	09:00					07:00	
Vol.	6	284	88	5	14	4		3	1					3	
PM Peak	15:00	14:00	15:00	15:00	16:00	14:00		14:00	13:00					14:00	
Vol.	8	180	64	6	10	5		2	1					5	
Grand Total	140	5007	1629	32	219	46	3	29	3	0	0	0	0	42	7150
Percent	2.0%	70.0%	22.8%	0.4%	3.1%	0.6%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
ROSELLE AV. 500' S/O CLARIBEL RD.

Site Code: 39
ROSELLE39

NORTHBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
10/01/08	0	18	2	0	0	0	0	0	0	0	0	0	0	0	20
01:00	0	11	3	0	0	0	0	0	0	0	0	0	0	0	14
02:00	0	12	3	0	0	0	0	0	0	0	0	0	0	0	15
03:00	0	9	2	0	0	0	0	0	0	0	0	0	0	0	11
04:00	1	14	1	0	2	0	0	0	0	0	0	0	0	0	18
05:00	3	34	23	0	1	1	0	0	0	0	0	0	0	0	62
06:00	4	77	46	0	6	1	0	0	0	0	0	0	0	0	134
07:00	5	153	45	0	7	4	0	1	0	0	0	0	0	1	216
08:00	7	127	36	1	6	0	0	1	0	0	0	0	0	0	178
09:00	2	104	34	0	3	1	0	1	0	0	0	0	0	1	146
10:00	2	109	53	0	7	3	0	1	0	0	0	0	0	0	175
11:00	4	109	54	1	4	0	0	1	0	0	0	0	0	0	173
12 PM	6	104	40	0	9	1	0	0	0	0	0	0	0	0	160
13:00	1	112	38	0	6	0	0	3	0	0	0	0	0	0	160
14:00	6	188	54	0	14	1	0	2	0	0	0	0	0	0	265
15:00	6	173	59	0	10	5	0	4	0	0	1	0	0	4	262
16:00	9	210	71	0	13	1	0	2	0	0	0	0	0	2	308
17:00	4	99	40	0	3	1	0	1	0	0	0	0	0	0	148
18:00	5	169	59	0	8	1	0	0	1	0	0	0	0	0	243
19:00	2	138	59	1	3	1	0	1	0	0	0	0	0	0	205
20:00	1	116	38	0	6	1	0	1	0	0	0	0	0	0	163
21:00	1	101	15	0	4	0	0	0	0	0	0	0	0	0	121
22:00	2	55	16	0	0	0	0	0	0	0	0	0	0	0	73
23:00	0	33	5	0	0	0	0	0	0	0	0	0	0	0	38
Total	71	2275	796	3	112	22	0	19	1	0	1	0	0	8	3308
Percent	2.1%	68.8%	24.1%	0.1%	3.4%	0.7%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	
AM Peak	08:00	07:00	11:00	08:00	07:00	07:00		07:00						07:00	
Vol.	7	153	54	1	7	4		1						1	
PM Peak	16:00	16:00	16:00	19:00	14:00	15:00		15:00	18:00		15:00			15:00	
Vol.	9	210	71	1	14	5		4	1		1			4	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
ROSELLE AV. 500' S/O CLARIBEL RD.

Site Code: 39
ROSELLE39

NORTHBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
10/02/08	0	16	5	0	0	0	0	0	0	0	0	0	0	0	21
01:00	0	11	3	0	0	0	0	0	0	0	0	0	0	0	14
02:00	0	7	3	0	0	0	0	0	0	0	0	0	0	0	10
03:00	0	13	3	0	0	0	0	0	0	0	0	0	0	0	16
04:00	1	7	6	0	2	0	0	0	0	0	0	0	0	0	16
05:00	4	35	21	0	2	0	0	0	0	0	0	0	0	0	62
06:00	3	87	46	0	5	0	0	0	0	0	0	0	0	1	142
07:00	4	159	60	0	8	1	1	0	0	0	0	0	0	1	234
08:00	3	121	45	1	9	2	0	3	1	0	0	0	0	0	185
09:00	2	104	24	0	2	1	0	3	0	0	0	0	0	1	137
10:00	5	87	42	0	6	1	0	0	0	0	0	0	0	1	142
11:00	2	129	46	0	4	1	0	1	0	0	0	0	0	0	183
12 PM	4	121	48	0	8	5	0	1	1	0	0	0	0	0	188
13:00	6	111	44	0	9	3	0	0	0	0	0	0	0	1	174
14:00	5	143	51	0	6	3	0	2	1	0	1	0	0	3	215
15:00	1	133	64	0	9	4	0	0	1	0	1	0	0	1	214
16:00	4	212	52	1	7	2	0	1	0	0	0	0	0	1	280
17:00	4	151	26	0	4	0	0	1	0	0	0	0	0	0	186
18:00	2	179	52	0	5	2	0	2	1	0	0	0	0	0	243
19:00	4	148	48	0	2	0	0	1	0	0	0	0	0	0	203
20:00	5	106	41	0	3	1	0	0	0	0	0	0	0	0	156
21:00	1	89	19	0	1	0	0	1	0	0	0	0	0	0	111
22:00	0	70	11	0	1	0	0	0	0	0	0	0	0	0	82
23:00	0	35	7	0	0	0	0	0	0	0	0	0	0	0	42
Total	60	2274	767	2	93	26	1	16	5	0	2	0	0	10	3256
Percent	1.8%	69.8%	23.6%	0.1%	2.9%	0.8%	0.0%	0.5%	0.2%	0.0%	0.1%	0.0%	0.0%	0.3%	
AM Peak	10:00	07:00	07:00	08:00	08:00	08:00	07:00	08:00	08:00					06:00	
Vol.	5	159	60	1	9	2	1	3	1					1	
PM Peak	13:00	16:00	15:00	16:00	13:00	12:00		14:00	12:00		14:00			14:00	
Vol.	6	212	64	1	9	5		2	1		1			3	
Grand Total	131	4549	1563	5	205	48	1	35	6	0	3	0	0	18	6564
Percent	2.0%	69.3%	23.8%	0.1%	3.1%	0.7%	0.0%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.3%	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
LANGWORTH RD. N/O CLARIBEL RD.

Site Code: 29
langworth29

NORTHBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
09/17/08	0	8	1	0	0	0	0	0	0	0	0	0	0	0	9
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	2	3	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
05:00	0	17	7	0	1	0	0	1	0	0	0	0	0	0	26
06:00	1	26	13	1	3	0	0	0	1	0	0	0	0	0	45
07:00	3	59	17	0	5	0	1	1	2	0	0	0	0	0	88
08:00	2	40	15	0	4	1	0	1	3	0	1	0	0	1	68
09:00	2	41	19	0	2	1	0	2	1	0	1	0	0	1	70
10:00	0	27	17	1	3	4	0	2	2	0	0	0	0	1	57
11:00	0	38	14	0	7	2	1	2	3	0	0	0	0	0	67
12 PM	1	42	26	3	9	2	0	0	0	0	1	0	0	0	84
13:00	1	76	23	1	7	2	0	1	1	0	5	0	0	0	117
14:00	1	56	20	0	5	0	0	1	1	0	0	0	0	0	84
15:00	2	69	33	2	5	2	0	3	3	0	0	0	0	1	120
16:00	3	100	36	2	3	5	0	0	1	0	0	0	0	2	152
17:00	2	128	37	1	10	0	0	0	1	0	0	0	0	0	179
18:00	1	100	22	1	7	2	0	2	2	0	0	0	0	0	137
19:00	1	71	18	0	0	0	0	0	0	0	0	0	0	0	90
20:00	2	46	13	0	0	0	0	0	0	0	0	0	0	0	61
21:00	0	32	8	0	0	0	0	0	0	0	0	0	0	0	40
22:00	0	22	3	0	1	0	0	0	0	0	0	0	0	0	26
23:00	0	7	5	0	0	0	0	0	0	0	0	0	0	0	12
Total	22	1018	353	12	72	21	2	16	21	0	8	0	0	6	1551
Percent	1.4%	65.6%	22.8%	0.8%	4.6%	1.4%	0.1%	1.0%	1.4%	0.0%	0.5%	0.0%	0.0%	0.4%	
AM Peak	07:00	07:00	09:00	06:00	11:00	10:00	07:00	09:00	08:00		08:00			08:00	
Vol.	3	59	19	1	7	4	1	2	3		1			1	
PM Peak	16:00	17:00	17:00	12:00	17:00	16:00		15:00	15:00		13:00			16:00	
Vol.	3	128	37	3	10	5		3	3		5			2	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
LANGWORTH RD. N/O CLARIBEL RD.

Site Code: 29
langworth29

NORTHBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
09/18/08	0	8	0	0	1	0	0	0	0	0	0	0	0	0	9
01:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	4	2	0	0	0	0	0	1	0	0	0	0	0	7
05:00	0	23	5	0	1	0	0	0	0	0	0	0	0	0	29
06:00	1	33	13	1	4	0	0	1	1	0	0	0	0	0	54
07:00	3	65	13	0	5	0	0	3	1	0	0	0	0	0	90
08:00	0	47	23	1	5	0	0	0	4	0	0	0	0	1	81
09:00	0	29	17	1	6	3	0	0	4	0	0	0	0	1	61
10:00	0	30	18	4	3	7	0	2	1	0	0	0	0	0	65
11:00	2	46	15	1	6	1	0	0	1	0	0	0	0	0	72
12 PM	2	38	21	2	2	1	0	1	2	0	0	0	0	0	69
13:00	0	43	23	0	6	0	0	0	1	0	1	0	0	0	74
14:00	2	75	24	0	5	2	0	0	3	0	0	0	0	1	112
15:00	1	65	26	2	4	6	0	0	4	0	0	0	0	1	109
16:00	1	96	39	1	8	1	0	1	5	0	0	0	0	0	152
17:00	2	131	36	1	4	0	0	0	0	0	0	0	0	0	174
18:00	2	76	23	0	3	0	0	1	4	0	0	0	0	0	109
19:00	1	56	19	0	3	0	0	0	0	0	0	0	0	0	79
20:00	0	47	8	0	1	1	0	0	0	0	0	0	0	0	57
21:00	0	42	9	0	0	0	0	0	0	0	0	0	0	0	51
22:00	0	30	4	0	1	0	0	0	1	0	0	0	0	0	36
23:00	0	6	4	0	0	0	0	0	1	0	0	0	0	0	11
Total	17	994	343	14	69	22	0	9	34	0	1	0	0	4	1507
Percent	1.1%	66.0%	22.8%	0.9%	4.6%	1.5%	0.0%	0.6%	2.3%	0.0%	0.1%	0.0%	0.0%	0.3%	
AM Peak	07:00	07:00	08:00	10:00	09:00	10:00		07:00	08:00					08:00	
Vol.	3	65	23	4	6	7		3	4					1	
PM Peak	12:00	17:00	16:00	12:00	16:00	15:00		12:00	16:00		13:00			14:00	
Vol.	2	131	39	2	8	6		1	5		1			1	
Grand Total	39	2012	696	26	141	43	2	25	55	0	9	0	0	10	3058
Percent	1.3%	65.8%	22.8%	0.9%	4.6%	1.4%	0.1%	0.8%	1.8%	0.0%	0.3%	0.0%	0.0%	0.3%	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
LANGWORTH RD. N/O CLARIBEL RD.

Site Code: 29
langworth29

SOUTHBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
09/17/08	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	3	0	1	0	0	0	0	0	0	0	0	0	5
04:00	0	6	4	0	1	0	0	0	0	0	0	0	0	0	11
05:00	0	8	8	0	1	0	0	0	1	0	0	0	0	0	18
06:00	2	48	17	0	4	1	0	0	0	0	0	0	0	0	72
07:00	5	144	45	0	9	0	0	2	5	0	0	0	0	0	210
08:00	2	91	29	0	12	1	0	2	2	0	0	0	0	0	139
09:00	1	45	12	2	4	2	0	1	0	0	0	0	0	0	67
10:00	0	37	18	0	2	3	0	1	3	0	1	0	0	0	65
11:00	1	31	19	0	1	4	0	1	1	0	0	0	0	0	58
12 PM	0	44	16	1	7	0	0	1	1	0	0	0	0	0	70
13:00	2	35	15	1	3	3	0	0	0	0	0	0	0	0	59
14:00	0	49	20	0	4	2	0	0	0	0	0	0	0	0	75
15:00	1	44	35	1	9	3	0	4	2	0	0	0	0	0	99
16:00	2	50	24	0	4	3	0	0	0	0	0	0	0	1	84
17:00	2	44	23	0	9	1	0	0	4	0	0	0	0	2	85
18:00	1	31	16	0	3	0	0	0	0	0	0	0	0	0	51
19:00	0	25	7	0	4	0	0	0	1	0	0	0	0	0	37
20:00	1	11	8	0	4	0	0	1	0	0	0	0	0	0	25
21:00	0	14	6	0	1	0	0	0	0	0	0	0	0	0	21
22:00	0	12	6	0	1	0	0	0	1	0	0	0	0	0	20
23:00	1	13	2	0	1	0	0	0	0	0	0	0	0	0	17
Total	21	785	333	5	85	23	0	13	21	0	1	0	0	3	1290
Percent	1.6%	60.9%	25.8%	0.4%	6.6%	1.8%	0.0%	1.0%	1.6%	0.0%	0.1%	0.0%	0.0%	0.2%	
AM Peak	07:00	07:00	07:00	09:00	08:00	11:00		07:00	07:00		10:00				
Vol.	5	144	45	2	12	4		2	5		1				
PM Peak	13:00	16:00	15:00	12:00	15:00	13:00		15:00	17:00					17:00	
Vol.	2	50	35	1	9	3		4	4					2	

MARKS TRAFFIC DATA

STANISLAUS COUNTY
LANGWORTH RD. N/O CLARIBEL RD.

Site Code: 29
langworth29

SOUTHBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
09/18/08	0	2	2	0	1	0	0	0	0	0	0	0	0	0	5
01:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	2	2	0	1	0	0	0	0	0	0	0	0	0	5
04:00	0	5	2	0	0	0	0	0	1	0	0	0	0	0	8
05:00	0	12	7	0	1	0	0	0	0	0	0	0	0	0	20
06:00	1	57	23	0	7	0	0	1	1	0	0	0	0	0	90
07:00	3	135	39	2	9	0	0	3	2	0	0	0	0	0	193
08:00	1	85	28	1	11	0	1	2	3	0	0	0	0	0	132
09:00	0	38	13	1	6	1	0	0	3	0	1	0	0	0	63
10:00	0	38	15	1	10	8	0	0	3	0	0	0	0	0	75
11:00	0	41	12	1	4	0	0	0	2	0	0	0	0	0	60
12 PM	0	38	18	0	8	1	0	0	1	0	0	0	0	0	66
13:00	0	40	13	0	3	0	0	0	4	0	0	0	0	0	60
14:00	2	35	22	0	5	1	0	1	1	0	0	0	0	0	67
15:00	0	53	19	0	2	5	0	0	3	0	0	0	0	0	82
16:00	1	46	37	0	8	0	0	2	4	0	0	0	0	1	99
17:00	3	65	26	0	11	0	0	0	0	0	0	0	0	0	105
18:00	3	37	16	0	3	0	0	0	0	0	0	0	0	1	60
19:00	0	33	8	0	3	0	0	0	0	0	0	0	0	0	44
20:00	0	15	7	0	1	0	0	0	0	0	0	0	0	0	23
21:00	0	11	5	0	2	0	0	0	0	0	0	0	0	0	18
22:00	0	16	7	0	0	0	0	0	0	0	0	0	0	0	23
23:00	0	12	4	0	3	0	0	0	2	0	0	0	0	0	21
Total	14	820	327	6	99	16	1	9	30	0	1	0	0	2	1325
Percent	1.1%	61.9%	24.7%	0.5%	7.5%	1.2%	0.1%	0.7%	2.3%	0.0%	0.1%	0.0%	0.0%	0.2%	
AM Peak	07:00	07:00	07:00	07:00	08:00	10:00	08:00	07:00	08:00		09:00				
Vol.	3	135	39	2	11	8	1	3	3		1				
PM Peak	17:00	17:00	16:00		17:00	15:00		16:00	13:00					16:00	
Vol.	3	65	37		11	5		2	4					1	
Grand Total	35	1605	660	11	184	39	1	22	51	0	2	0	0	5	2615
Percent	1.3%	61.4%	25.2%	0.4%	7.0%	1.5%	0.0%	0.8%	2.0%	0.0%	0.1%	0.0%	0.0%	0.2%	

APPENDIX C:
SIMTRAFFIC MODEL CALIBRATION AND VALIDATION

Appendix C

SimTraffic Model Calibration and Validation

This Appendix discusses the Synchro and SimTraffic model development process used to determine existing intersection operations. The Guidelines for *Applying Traffic Microsimulation Modeling Software* (September 2002) developed by Caltrans were used as a guideline for model development, calibration, and validation.

Model Development

SimTraffic models were developed representing the existing AM peak hour and PM peak hour traffic conditions for the local streets. As the existing conditions models would be used to evaluate future traffic conditions, an extensive model calibration and validation process was followed to ensure that the modeled results are consistent with the observed conditions on the local streets.

The majority of model development was performed using Synchro before converting the network into the SimTraffic software. The Synchro models include all of the study intersections and were coded with the demand peak hour volumes, posted speed limit, vehicle mix, and signal timings. Traffic signal-related information such as phasing and initial timings (minimum green, maximum green, etc.) for the signalized intersections were obtained from the respective agencies and municipalities (City of Modesto, Stanislaus County, and Caltrans). Additional detail such as turn pocket lengths and intersection spacing was coded based on field observations and aerial photography. The following represents the initial default SimTraffic parameters used in the modeling before calibration:

- Free flow speed = posted speed limit
- Left-turn lane capacity = 1,770 passenger cars per hour per lane (pcphpl)
- Through lane capacity = 1,863 pcphpl
- Right-turn lane capacity = 1,583 pcphpl
- Left-turn turning speed = 15 mph
- Right-turn turning speed = 9 mph
- Vehicle lengths
    - Car 1 = 18 feet
    - Car 2 = 16 feet
- Vehicle Occurrence
    - Cars:
        - 50% Car 1
        - 50% Car 2
    - Heavy Vehicles:
        - 50% Single unit truck
        - 50% Semi truck 2
- Driver Behavior
    - Yellow reaction time for drivers 1-4 set equal to driver 5
    - Green reaction time for drivers 1-4 set equal to driver 5
    - Gap acceptance factor for drivers 1-4 set equal to driver 5
    - Mandatory/Positioning Distance Adjustment to be within 80%-125% range

Model Calibration

SimTraffic models reflecting existing field conditions require calibration to ensure that traffic volumes, queue lengths, and other operational observations are replicated satisfactorily. The final calibration settings were carried forward for the alternatives analysis.

The following calibration process was employed to determine if the model results were satisfactorily replicating the existing conditions:

1. Make a base model run with default parameters
2. Compare predicted and field-observed performance measures and assess differences
3. Assess differences between predicted and field-observed performance measures
4. Select reasonable model input changes to reduce differences
5. Make a new model run with selected input changes
6. Repeat process until predictions are acceptable

Validation Criteria

The two major validation criteria based on the *Guidelines for Applying Traffic Microsimulation Modeling Software* used in this study are as follows:

1. The model simulated total intersection volumes should be within 5% of the existing 2010 volumes.
2. The simulation model should replicate noticeable field queues to the analyst's satisfaction.

Model Parameter Adjustments

The initial model runs did not replicate field traffic volumes or observed queues using the default analysis parameters. These model parameters were adjusted where appropriate to more closely match field observed conditions. Driver aggressiveness factors were the most common adjustments made to the model.

Driver aggressiveness factors refer to factors such as green reaction times and gap acceptance factors. These factors impact the vehicle headways and ultimately the saturation flow rates. Headways in urban areas with congested conditions are often lower than areas with un-congested conditions, resulting in higher saturation flow rates as drivers follow other vehicles more closely and drive more aggressively. Turning speeds were adjusted where a large radius curb return resulted in faster vehicle turn speeds than the default values. The following model adjustments were made to more closely match field observed conditions:

- Kiernan Avenue/Tully Road
  - Adjusted headway factor to 0.8 to replicate shorter vehicle headways
- SR 108/Kiernan Avenue
  - Adjusted headway factor to 0.5 to replicate shorter vehicle headways
- SR 108/Pelandale Avenue
  - Adjusted headway factor to 0.5 to replicate shorter vehicle headways
- Coffee Road/Claribel Road
  - Adjusted headway factor to 0.6 to replicate shorter vehicle headways
- Oakdale Road/SR 108

  - Adjusted headway factor to 0.5 to replicate shorter vehicle headways

- Oakdale Road/Claratina Avenue
  - Coded the northbound approach to include a 40 foot left turn pocket and a through lane to replicate northbound through vehicles driving on the shoulder to bypass queued left turn vehicles at the intersection approach
  - Adjusted headway factor at the northbound approach to 0.25 to replicate shorter vehicle headways
- McHenry Avenue/SR 108
  - Increased the northbound right turn speed to 15 mph
  - Increased the westbound left turn speed to 20 mph

- SR 108/Patterson Road
  - Increased the northbound right turn speed to 15 mph
  - Increased the westbound left turn speed to 20 mph

Intersection Volume Validation Results

SimTraffic is a stochastic model where different random seed numbers generate different driver behaviors (i.e., accepting available gaps for turns, changing lanes, etc.) and system results. The *Guidelines for Applying Traffic Microsimulation Modeling Software* recommends multiple runs to account for this stochastic nature of the model and to achieve confidence in the simulated results. Thus, all results presented in this section are the average of ten model runs with different seed numbers.

Table C-1 presents the intersection volume validation results. As shown in Table C-1, the total intersection model volumes at all intersections are within the 5 percent of the intersection traffic volume counts during the AM and PM peak hours. With respect to traffic volumes, the models have been validated.

Queues and Congestion Validation Results

Intersections are generally designed to accommodate 95th percentile queue lengths. 95th percentile queue lengths for each of the study intersections under Caltrans jurisdiction are presented in Chapter 3 of the Draft Traffic Operations Report. In general, the simulation models replicated noticeable field queues to the analyst's satisfaction based on intersection queue observations. With respect to traffic queue lengths, the models have been validated.

Table C-1
Model Volume Validation Results

Intersection	AM Peak Hour			PM Peak Hour		
	Count	Sim Traffic[1]	Sim Traffic/ Count[2]	Count	Sim Traffic[1]	Sim Traffic/ Count[2]
1. Kiernan Avenue/Carver Road	1,543	1,505	0.98	1,372	1,355	0.99
2. Kiernan Avenue/Tully Road	1,421	1,414	1.00	1,558	1,540	0.99
3. McHenry Avenue/Ladd Road	1,482	1,501	1.01	1,727	1,733	1.00
4. McHenry Avenue/SR 108	907	931	1.03	1,158	1,157	1.00
5. Patterson Road/SR 108	920	936	1.02	1,173	1,165	0.99
6. SR 108/Kiernan Avenue	1,992	1,979	0.99	2,666	2,648	0.99
7. SR 108/Pelandale Avenue	3,051	3,092	1.01	4,009	4,021	1.00
8. Coffee Road/Claribel Road	1,381	1,355	0.98	1,626	1,588	0.98
9. Coffee Road/Claratina Avenue	Not evaluated in SimTraffic					
10. Oakdale Road/SR 108	1,632	1,638	1.00	2,087	2,072	0.99
11. Oakdale Road/Claribel Road	1,944	1,935	1.00	2,445	2,429	0.99
12. Oakdale Road/Claratina Avenue	1,598	1,608	1.01	1,974	1,973	1.00
13. SR 108/1st Street	1,666	1,646	0.99	2,022	2,030	1.00
14. Claribel Road/Roselle Avenue	1,487	1,495	1.01	1,598	1,584	0.99
15. SR 108/Claus Road	1,409	1,392	0.99	1,500	1,513	1.01
16. Claribel Road/Claus Road	1,162	1,150	0.99	1,351	1,362	1.01
17. Patterson Road/Crane Road	467	467	1.00	523	517	0.99
18. Claribel Road/Bentley Road	542	553	1.02	554	553	1.00
19. SR 108/Oak Avenue	1,680	1,671	0.99	1,826	1,829	1.00
20. SR 108/SR 120	2,486	2,496	1.00	2,863	2,857	1.00
21. SR 108/Maag Avenue	1,887	1,916	1.02	2,305	2,315	1.00
22. Patterson Road/Albers Road	1,583	1,585	1.00	1,631	1,627	1.00
23. Claribel Road/Albers Road	1,273	1,278	1.00	1,369	1,356	0.99

Notes:
1. Average volumes based on 10 SimTraffic runs.
2. Modeled traffic volume expressed as a ratio of observed traffic volume. For example: 1.00 indicates an exact replication of field conditions.

Source: Fehr & Peers, 2014

APPENDIX D:
EXISTING INTERSECTION ANALYSIS CALCULATION WORKSHEETS

1: Carver & SR 219 (Kiernan Ave) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.3	0.4	4.0	1.7	0.0	0.2	0.2	0.2	0.2	0.2	0.2
Total Del/Veh (s)	27.8	42.0	32.2	155.2	170.1	154.2	17.2	21.0	14.0	13.4	19.4	11.9
Vehicles Exited	26	404	93	48	499	28	153	58	13	6	116	61
Hourly Exit Rate	26	404	93	48	499	28	153	58	13	6	116	61
Input Volume	28	406	93	56	535	30	151	53	13	7	114	58
% of Volume	94	100	100	86	93	94	101	109	102	83	102	105
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	1	0	0	0	0	0	0	0

1: Carver & SR 219 (Kiernan Ave) Performance by movement

Movement	All
Denied Del/Veh (s)	0.9
Total Del/Veh (s)	84.5
Vehicles Exited	1505
Hourly Exit Rate	1505
Input Volume	1544
% of Volume	97
Denied Entry Before	0
Denied Entry After	1

2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2
Total Del/Veh (s)	10.4	20.4	13.0	32.1	47.3	41.6	11.1	15.4	8.2	9.5	14.5	7.9
Vehicles Exited	20	335	68	122	513	4	67	58	83	13	92	39
Hourly Exit Rate	20	335	68	122	513	4	67	58	83	13	92	39
Input Volume	21	340	65	122	517	4	67	60	83	16	90	37
% of Volume	95	98	105	100	99	94	100	96	100	81	102	105
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1 Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	28.6
Vehicles Exited	1414
Hourly Exit Rate	1414
Input Volume	1422
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
Total Del/Veh (s)	38.2	20.5	7.5	45.9	29.1	6.8	49.5	23.5	15.4	41.1	27.2	13.0
Vehicles Exited	91	91	23	16	311	128	13	191	5	60	360	212
Hourly Exit Rate	91	91	23	16	311	128	13	191	5	60	360	212
Input Volume	90	89	21	15	313	125	13	190	4	60	350	214
% of Volume	101	103	110	108	99	103	102	100	118	100	103	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	24.3
Vehicles Exited	1501
Hourly Exit Rate	1501
Input Volume	1484
% of Volume	101
Denied Entry Before	0
Denied Entry After	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	14.4	6.5	0.4	13.7	10.6
Vehicles Exited	209	209	115	398	931
Hourly Exit Rate	209	209	115	398	931
Input Volume	205	206	110	387	908
% of Volume	102	101	105	103	103
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.6	0.6	0.0	0.4
Total Del/Veh (s)	10.5	14.4	3.9	3.6	7.4
Vehicles Exited	159	210	451	116	936
Hourly Exit Rate	159	210	451	116	936
Input Volume	156	205	452	110	923
% of Volume	102	102	100	105	101
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd Performan

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.1	3.4	0.0	0.0	0.0
Total Del/Veh (s)	40.5	28.8	4.9	42.9	37.0	26.5	41.9	22.0	3.7	45.2	27.7	10.5
Vehicles Exited	84	141	79	179	387	47	73	244	56	28	490	172
Hourly Exit Rate	84	141	79	179	387	47	73	244	56	28	490	172
Input Volume	85	147	83	186	389	50	71	246	56	29	482	170
% of Volume	99	96	95	96	99	94	103	99	100	97	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd Performan

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	28.5
Vehicles Exited	1980
Hourly Exit Rate	1980
Input Volume	1993
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by mov

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.1	0.1	0.0	0.0	0.0	0.3	0.2	0.2	3.1	0.2	3.1
Total Del/Veh (s)	41.9	27.9	7.3	47.1	32.7	9.1	44.5	28.8	13.0	45.6	26.5	10.0
Vehicles Exited	182	416	147	48	628	244	187	530	32	57	530	91
Hourly Exit Rate	182	416	147	48	628	244	187	530	32	57	530	91
Input Volume	184	409	143	50	617	236	184	523	30	59	528	88
% of Volume	99	102	103	96	102	103	102	101	108	96	100	104
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by mov

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	28.1
Vehicles Exited	3092
Hourly Exit Rate	3092
Input Volume	3050
% of Volume	101
Denied Entry Before	0
Denied Entry After	0

8: Coffee Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.8	0.0	0.4	0.4	3.7	0.5	0.5	2.3
Total Del/Veh (s)	18.4	22.6	15.5	188.9	203.2	192.1	16.3	18.7	9.4	20.1	26.5	18.6
Vehicles Exited	18	172	34	78	375	3	91	94	87	8	254	143
Hourly Exit Rate	18	172	34	78	375	3	91	94	87	8	254	143
Input Volume	19	176	36	81	396	2	90	98	84	9	252	139
% of Volume	95	98	94	96	95	150	101	96	104	86	101	103
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

8: Coffee Rd & Claribel Rd Performance by movement

Movement	All
Denied Del/Veh (s)	0.9
Total Del/Veh (s)	83.4
Vehicles Exited	1357
Hourly Exit Rate	1357
Input Volume	1382
% of Volume	98
Denied Entry Before	0
Denied Entry After	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.5	0.3	0.2
Total Del/Veh (s)	6.4	9.3	6.0	125.3	139.8	133.3	8.0	11.5	6.4	115.4	115.6	113.4
Vehicles Exited	60	126	207	22	426	20	322	199	2	11	266	99
Hourly Exit Rate	60	126	207	22	426	20	322	199	2	11	266	99
Input Volume	63	134	205	21	422	17	333	202	2	12	259	96
% of Volume	96	94	101	104	101	118	97	99	100	94	103	103
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	66.4
Vehicles Exited	1760
Hourly Exit Rate	1760
Input Volume	1765
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.8	0.1	0.1	0.7	0.7	0.7	1.5	0.2	0.1	2.2	0.4	2.1
Total Del/Veh (s)	62.9	17.2	9.1	51.8	14.6	9.7	59.8	45.2	55.2	58.3	54.6	10.3
Vehicles Exited	30	262	39	238	506	27	109	53	137	43	97	96
Hourly Exit Rate	30	262	39	238	506	27	109	53	137	43	97	96
Input Volume	34	255	38	233	503	28	112	52	139	44	99	95
% of Volume	88	103	102	102	101	96	98	102	99	97	98	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	31.8
Vehicles Exited	1637
Hourly Exit Rate	1637
Input Volume	1632
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.2	0.7	0.2	0.0	0.0	0.0	0.2	0.1	0.1
Total Del/Veh (s)	46.2	39.7	13.8	47.4	37.1	2.4	52.9	25.7	6.8	54.6	39.3	8.3
Vehicles Exited	87	176	42	215	329	34	29	260	124	29	473	136
Hourly Exit Rate	87	176	42	215	329	34	29	260	124	29	473	136
Input Volume	90	178	40	222	333	30	28	256	123	31	479	136
% of Volume	97	99	104	97	99	114	105	102	101	94	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	33.4
Vehicles Exited	1934
Hourly Exit Rate	1934
Input Volume	1945
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.2	1.6	0.3	0.0	0.0	0.5
Total Del/Veh (s)	83.2	10.0	22.1	1.5	8.2	5.4	10.0
Vehicles Exited	7	138	356	363	617	126	1607
Hourly Exit Rate	7	138	356	363	617	126	1607
Input Volume	6	139	354	356	626	127	1608
% of Volume	112	99	100	102	99	99	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.4	0.4	0.4	0.5	0.5	3.8	0.4	0.3	2.6	0.6	0.5
Total Del/Veh (s)	50.7	21.7	14.9	74.4	41.0	21.2	38.5	48.3	36.5	46.8	52.0	35.5
Vehicles Exited	105	312	13	10	472	153	36	151	28	141	93	133
Hourly Exit Rate	105	312	13	10	472	153	36	151	28	141	93	133
Input Volume	106	313	11	12	470	157	42	154	27	141	93	140
% of Volume	99	100	116	82	100	97	85	98	104	100	100	95
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	37.3
Vehicles Exited	1647
Hourly Exit Rate	1647
Input Volume	1667
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

14: Roselle & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.5	0.4	0.3	0.5	0.5	0.4	0.3	0.3	0.4	0.5	0.4	0.4
Total Del/Veh (s)	22.5	25.2	17.3	91.1	92.8	80.7	25.8	28.7	24.2	62.3	60.2	50.8
Vehicles Exited	20	179	136	27	357	47	93	220	20	49	315	31
Hourly Exit Rate	20	179	136	27	357	47	93	220	20	49	315	31
Input Volume	20	169	137	29	362	46	94	220	20	52	309	29
% of Volume	101	106	99	93	99	103	99	100	101	94	102	107
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	53.4
Vehicles Exited	1494
Hourly Exit Rate	1494
Input Volume	1487
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.4	0.4	2.2	0.9	0.4	3.9	1.1
Total Del/Veh (s)	3.1	1.8	7.3	3.4	24.2	4.9	4.5
Vehicles Exited	336	126	174	594	45	117	1392
Hourly Exit Rate	336	126	174	594	45	117	1392
Input Volume	337	132	173	602	45	120	1409
% of Volume	100	95	101	99	99	98	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.0	0.3	3.7	2.3	0.4	2.4	3.7	0.5	3.5	2.4	0.4	2.2
Total Del/Veh (s)	26.5	27.2	7.0	25.7	22.2	5.5	26.3	16.4	4.3	31.2	17.0	5.6
Vehicles Exited	26	111	14	96	179	19	9	219	97	11	313	57
Hourly Exit Rate	26	111	14	96	179	19	9	219	97	11	313	57
Input Volume	29	117	13	101	183	20	8	219	96	12	308	56
% of Volume	89	95	110	95	98	95	109	100	101	94	102	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

16: Claus Rd & Claribel Rd Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	17.9
Vehicles Exited	1151
Hourly Exit Rate	1151
Input Volume	1162
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	0.1	0.2	0.2	0.2
Total Del/Veh (s)	1.7	1.8	2.2	1.1	5.5	3.6	2.6
Vehicles Exited	58	102	127	20	31	129	467
Hourly Exit Rate	58	102	127	20	31	129	467
Input Volume	58	98	129	19	31	132	466
% of Volume	100	104	99	107	100	98	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.2	0.2	0.2	0.3	0.3	0.1	0.1	4.1	0.1	0.1	4.0
Total Del/Veh (s)	3.7	1.5	1.6	1.5	1.1	0.2	4.5	9.1	2.8	5.3	9.4	3.1
Vehicles Exited	8	203	4	7	278	1	8	13	3	1	21	9
Hourly Exit Rate	8	203	4	7	278	1	8	13	3	1	21	9
Input Volume	7	196	3	8	274	1	8	13	3	2	20	8
% of Volume	110	103	133	85	101	100	97	98	100	50	106	109
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	1.9
Vehicles Exited	556
Hourly Exit Rate	556
Input Volume	544
% of Volume	102
Denied Entry Before	0
Denied Entry After	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.6	0.6	0.6	0.6	0.6	0.6	3.9	0.4	0.4	2.2	0.5	2.3
Total Del/Veh (s)	38.2	19.4	9.4	34.0	19.1	7.9	26.4	19.3	9.2	25.3	19.5	11.9
Vehicles Exited	61	529	37	35	514	55	88	49	16	103	55	129
Hourly Exit Rate	61	529	37	35	514	55	88	49	16	103	55	129
Input Volume	60	533	36	34	523	56	85	49	15	104	55	130
% of Volume	102	99	103	104	98	99	103	99	108	99	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	19.8
Vehicles Exited	1671
Hourly Exit Rate	1671
Input Volume	1680
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performan

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.4	0.5	0.5	0.4	0.2	0.2	1.9	0.7	2.0	0.1	0.1	0.1
Total Del/Veh (s)	77.3	38.0	27.0	59.4	44.3	9.6	47.4	46.9	10.4	51.2	43.1	35.7
Vehicles Exited	84	347	47	128	411	313	88	258	170	301	285	64
Hourly Exit Rate	84	347	47	128	411	313	88	258	170	301	285	64
Input Volume	80	353	44	123	415	304	90	260	163	304	289	61
% of Volume	105	98	106	104	99	103	98	99	104	99	99	105
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performan

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	39.3
Vehicles Exited	2496
Hourly Exit Rate	2496
Input Volume	2486
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by m

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.1	0.1	0.2	1.1	0.1	0.2	2.7	0.8	2.6	0.2	0.2	0.2
Total Del/Veh (s)	39.4	23.4	13.4	36.1	19.0	12.5	32.0	21.7	5.9	37.1	32.7	10.9
Vehicles Exited	42	346	167	144	516	26	257	103	73	24	137	81
Hourly Exit Rate	42	346	167	144	516	26	257	103	73	24	137	81
Input Volume	43	342	158	144	510	26	253	97	74	23	137	80
% of Volume	98	101	106	100	101	99	102	106	99	104	100	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by m

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	23.2
Vehicles Exited	1916
Hourly Exit Rate	1916
Input Volume	1887
% of Volume	102
Denied Entry Before	0
Denied Entry After	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	4.0	0.5	3.9	3.4	0.5	3.2	1.1	3.2	1.3
Total Del/Veh (s)	30.4	31.7	4.4	34.2	31.5	5.8	34.2	21.2	34.2	15.6	6.4	18.5
Vehicles Exited	83	19	16	2	45	132	13	490	82	616	88	1586
Hourly Exit Rate	83	19	16	2	45	132	13	490	82	616	88	1586
Input Volume	84	19	16	3	45	134	12	489	79	611	91	1582
% of Volume	99	101	102	67	101	99	106	100	104	101	96	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.9	0.6	3.9	2.5	0.2	0.2	3.4	0.1	0.1	1.8	0.2	3.2
Total Del/Veh (s)	23.9	20.5	3.9	28.9	30.5	16.6	29.0	11.3	4.0	22.2	16.8	4.5
Vehicles Exited	149	14	38	14	107	2	39	310	16	1	451	137
Hourly Exit Rate	149	14	38	14	107	2	39	310	16	1	451	137
Input Volume	150	15	38	16	109	2	40	303	16	1	448	136
% of Volume	99	95	101	89	98	100	98	102	102	100	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	All
Denied Del/Veh (s)	1.2
Total Del/Veh (s)	16.2
Vehicles Exited	1278
Hourly Exit Rate	1278
Input Volume	1274
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

24: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	115	115
Hourly Exit Rate	115	115
Input Volume	116	116
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

25: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	483	483
Hourly Exit Rate	483	483
Input Volume	481	481
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

26: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	494	494
Hourly Exit Rate	494	494
Input Volume	486	486
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

27: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	114	114
Hourly Exit Rate	114	114
Input Volume	119	119
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

28: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	257	257
Hourly Exit Rate	257	257
Input Volume	261	261
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

29: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.0	2.0
Vehicles Exited	454	454
Hourly Exit Rate	454	454
Input Volume	457	457
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

30: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	281	281
Hourly Exit Rate	281	281
Input Volume	276	276
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

31: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.0	0.6	0.4
Total Del/Veh (s)	3.0	3.4	3.2
Vehicles Exited	373	690	1063
Hourly Exit Rate	373	690	1063
Input Volume	381	681	1062
% of Volume	98	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

32: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	78	78
Hourly Exit Rate	78	78
Input Volume	77	77
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

33: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	6.3	6.3
Vehicles Exited	725	725
Hourly Exit Rate	725	725
Input Volume	720	720
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

34: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	5.5	5.5
Vehicles Exited	423	423
Hourly Exit Rate	423	423
Input Volume	422	422
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

35: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.0	4.0
Vehicles Exited	816	816
Hourly Exit Rate	816	816
Input Volume	820	820
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

37: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	5.3	5.3
Vehicles Exited	703	703
Hourly Exit Rate	703	703
Input Volume	707	707
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

38: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	502	502
Hourly Exit Rate	502	502
Input Volume	498	498
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

39: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	7.9	7.9
Vehicles Exited	535	535
Hourly Exit Rate	535	535
Input Volume	538	538
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

40: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	441	441
Hourly Exit Rate	441	441
Input Volume	438	438
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	444	444
Hourly Exit Rate	444	444
Input Volume	439	439
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	411	411
Hourly Exit Rate	411	411
Input Volume	404	404
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	9.6	9.6
Vehicles Exited	656	656
Hourly Exit Rate	656	656
Input Volume	644	644
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	6.0	6.0
Vehicles Exited	483	483
Hourly Exit Rate	483	483
Input Volume	481	481
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	109	109
Hourly Exit Rate	109	109
Input Volume	114	114
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	171	171
Hourly Exit Rate	171	171
Input Volume	166	166
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	451	451
Hourly Exit Rate	451	451
Input Volume	439	439
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	101	101
Hourly Exit Rate	101	101
Input Volume	98	98
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	166	166
Hourly Exit Rate	166	166
Input Volume	165	165
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	127	127
Hourly Exit Rate	127	127
Input Volume	124	124
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	7.0	7.0
Vehicles Exited	909	909
Hourly Exit Rate	909	909
Input Volume	889	889
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	5.0	5.0
Vehicles Exited	636	636
Hourly Exit Rate	636	636
Input Volume	630	630
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	746	746
Hourly Exit Rate	746	746
Input Volume	755	755
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

54: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	218	218
Hourly Exit Rate	218	218
Input Volume	225	225
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

57: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	125	125
Hourly Exit Rate	125	125
Input Volume	125	125
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

58: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	7.7	7.7
Vehicles Exited	958	958
Hourly Exit Rate	958	958
Input Volume	943	943
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	366	366
Hourly Exit Rate	366	366
Input Volume	369	369
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	271	271
Hourly Exit Rate	271	271
Input Volume	263	263
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

64: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	372	372
Hourly Exit Rate	372	372
Input Volume	381	381
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	6.7	6.7
Vehicles Exited	381	381
Hourly Exit Rate	381	381
Input Volume	375	375
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	133	133
Hourly Exit Rate	133	133
Input Volume	129	129
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.0	1.0
Vehicles Exited	300	300
Hourly Exit Rate	300	300
Input Volume	305	305
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	82	82
Hourly Exit Rate	82	82
Input Volume	86	86
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	112	112
Hourly Exit Rate	112	112
Input Volume	110	110
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	258	258
Hourly Exit Rate	258	258
Input Volume	263	263
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.0	0.0
Vehicles Exited	19	19
Hourly Exit Rate	19	19
Input Volume	19	19
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

74: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	286	286
Hourly Exit Rate	286	286
Input Volume	286	286
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

75: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	478	478
Hourly Exit Rate	478	478
Input Volume	475	475
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	7.4	7.4
Vehicles Exited	712	712
Hourly Exit Rate	712	712
Input Volume	743	743
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	283	283
Hourly Exit Rate	283	283
Input Volume	285	285
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	31	31
Hourly Exit Rate	31	31
Input Volume	32	32
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

81: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.9	0.6
Total Del/Veh (s)	6.1	1.9	3.4
Vehicles Exited	504	914	1418
Hourly Exit Rate	504	914	1418
Input Volume	498	903	1401
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	649	649
Hourly Exit Rate	649	649
Input Volume	652	652
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	9.7	9.7
Vehicles Exited	732	732
Hourly Exit Rate	732	732
Input Volume	738	738
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	502	502
Hourly Exit Rate	502	502
Input Volume	502	502
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	464	464
Hourly Exit Rate	464	464
Input Volume	456	456
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.3	0.0	0.1
Total Del/Veh (s)	1.1	3.7	2.8
Vehicles Exited	323	605	928
Hourly Exit Rate	323	605	928
Input Volume	316	591	907
% of Volume	102	102	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	293	293
Hourly Exit Rate	293	293
Input Volume	290	290
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

92: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	207	207
Hourly Exit Rate	207	207
Input Volume	201	201
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	409	409
Hourly Exit Rate	409	409
Input Volume	418	418
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	31	31
Hourly Exit Rate	31	31
Input Volume	31	31
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	21	21
Hourly Exit Rate	21	21
Input Volume	22	22
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

96: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	6.8	44.8	29.4
Vehicles Exited	423	607	1030
Hourly Exit Rate	423	607	1030
Input Volume	426	620	1046
% of Volume	99	98	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	6.4	6.4
Vehicles Exited	482	482
Hourly Exit Rate	482	482
Input Volume	486	486
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

100: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	248	248
Hourly Exit Rate	248	248
Input Volume	241	241
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

101: SR 219 (Kiernan Ave)#1 Performance by movement

Movement	EBT	EBR	WBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	7.6	6.7	5.9	4.7	6.4
Vehicles Exited	305	125	637	14	1081
Hourly Exit Rate	305	125	637	14	1081
Input Volume	315	125	634	13	1087
% of Volume	97	100	100	110	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	603	603
Hourly Exit Rate	603	603
Input Volume	591	591
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

103: Claribel Rd Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	5.1	6.0	5.8
Vehicles Exited	226	623	849
Hourly Exit Rate	226	623	849
Input Volume	232	638	870
% of Volume	97	98	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	749	749
Hourly Exit Rate	749	749
Input Volume	751	751
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	279	279
Hourly Exit Rate	279	279
Input Volume	282	282
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	849	849
Hourly Exit Rate	849	849
Input Volume	850	850
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	711	711
Hourly Exit Rate	711	711
Input Volume	710	710
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	379	379
Hourly Exit Rate	379	379
Input Volume	370	370
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

109: Claribel Rd Performance by movement

Movement	EBT	WBT	WBR	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	5.4	6.6	6.2	1.3	6.0
Vehicles Exited	274	480	19	35	808
Hourly Exit Rate	274	480	19	35	808
Input Volume	274	483	19	38	814
% of Volume	100	99	100	92	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	139	139
Hourly Exit Rate	139	139
Input Volume	148	148
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

111: Oakdale Rd Performance by movement

Movement	EBR	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	4.5	2.1	2.1	5.3	4.2
Vehicles Exited	3	44	369	739	1155
Hourly Exit Rate	3	44	369	739	1155
Input Volume	2	44	363	749	1158
% of Volume	150	99	102	99	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	7.4	7.4
Vehicles Exited	638	638
Hourly Exit Rate	638	638
Input Volume	652	652
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	327	327
Hourly Exit Rate	327	327
Input Volume	330	330
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	264	264
Hourly Exit Rate	264	264
Input Volume	268	268
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	638	638
Hourly Exit Rate	638	638
Input Volume	647	647
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	855	855
Hourly Exit Rate	855	855
Input Volume	843	843
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	460	460
Hourly Exit Rate	460	460
Input Volume	456	456
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	8.1	8.1
Vehicles Exited	563	563
Hourly Exit Rate	563	563
Input Volume	566	566
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

122: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	245	245
Hourly Exit Rate	245	245
Input Volume	247	247
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	147	147
Hourly Exit Rate	147	147
Input Volume	148	148
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

Total Network Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	44.4
Vehicles Exited	29167
Hourly Exit Rate	29167
Input Volume	72720
% of Volume	40
Denied Entry Before	0
Denied Entry After	1

Intersection: 1: Carver & SR 219 (Kiernan Ave)

Movement	EB	EB	EB	WB	WB	WB	B96	NB	SB
Directions Served	L	T	R	L	T	R	T	LTR	LTR
Maximum Queue (ft)	140	574	75	130	1298	75	681	191	152
Average Queue (ft)	44	224	66	97	889	42	210	73	62
95th Queue (ft)	132	505	97	183	1628	101	813	151	122
Link Distance (ft)		3302			1190		1320	2451	2396
Upstream Blk Time (%)					41		0		
Queuing Penalty (veh)					244		1		
Storage Bay Dist (ft)	80		50	70		50			
Storage Blk Time (%)	0	54	4	1	89	1			
Queuing Penalty (veh)	0	67	17	4	76	5			

Intersection: 2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	122	218	185	649	154	117
Average Queue (ft)	21	98	107	269	67	55
95th Queue (ft)	72	175	221	622	117	96
Link Distance (ft)		1320		3643	3718	3994
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150		125			
Storage Blk Time (%)		4	0	41		
Queuing Penalty (veh)		1	1	51		

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	158	130	115	396	220	61	127	116	126	278	250
Average Queue (ft)	70	49	19	180	68	14	55	52	49	136	98
95th Queue (ft)	130	102	67	322	174	44	103	102	103	233	196
Link Distance (ft)		5459		491			464	464		5159	
Upstream Blk Time (%)				0							
Queuing Penalty (veh)				0							
Storage Bay Dist (ft)	250		90		160	185			290		800
Storage Blk Time (%)			0	27						0	
Queuing Penalty (veh)			1	39						0	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	190	118	292	259
Average Queue (ft)	88	47	123	46
95th Queue (ft)	157	95	256	160
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	NB
Directions Served	TR	L	R
Maximum Queue (ft)	146	173	66
Average Queue (ft)	58	75	23
95th Queue (ft)	125	136	54
Link Distance (ft)	491		672
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		530	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel R

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	T	R	L	T	T
Maximum Queue (ft)	167	169	71	259	450	156	175	145	62	91	254	239
Average Queue (ft)	66	71	21	139	230	63	83	44	20	29	131	134
95th Queue (ft)	132	139	54	247	378	125	152	111	49	72	222	215
Link Distance (ft)		1460	1460		2548		1976	1976			439	439
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			200		260			540	200		
Storage Blk Time (%)	0			2	12						1	0
Queuing Penalty (veh)	0			7	23						0	0

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel R

Movement	SB
Directions Served	R
Maximum Queue (ft)	147
Average Queue (ft)	68
95th Queue (ft)	123
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	300
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	R	L	L	T	T	T	R	L
Maximum Queue (ft)	146	142	214	227	99	54	67	224	233	216	227	157
Average Queue (ft)	68	68	99	112	43	11	28	127	125	94	86	59
95th Queue (ft)	125	119	174	197	83	38	57	194	198	174	185	120
Link Distance (ft)			4938	4938	4938			926	926			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	350	350				300	300			350	350	225
Storage Blk Time (%)											0	
Queuing Penalty (veh)											0	

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	205	292	306	110	81	179	320	294	110
Average Queue (ft)	89	140	155	27	11	51	161	150	50
95th Queue (ft)	162	246	271	91	48	115	262	259	115
Link Distance (ft)		3865	3865				1768	1768	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	225			50	200	200			50
Storage Blk Time (%)	0	1	37	0			3	32	2
Queuing Penalty (veh)	0	2	11	1			2	28	6

Intersection: 8: Coffee Rd & Claribel Rd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	196	1457	196	67	319	67
Average Queue (ft)	83	854	78	42	124	47
95th Queue (ft)	155	1704	147	63	239	61
Link Distance (ft)	2563	2625	1547		1995	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			35	10	48	24
Queuing Penalty (veh)			30	19	67	62

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	168	1146	236	758
Average Queue (ft)	67	557	88	390
95th Queue (ft)	131	1288	190	862
Link Distance (ft)	1369	1645	1232	1231
Upstream Blk Time (%)		0		1
Queuing Penalty (veh)		0		0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T
Maximum Queue (ft)	111	156	159	194	205	172	208	218	167	283	130	274
Average Queue (ft)	36	69	62	91	113	74	94	103	47	125	50	96
95th Queue (ft)	89	126	125	167	177	143	180	185	117	237	111	203
Link Distance (ft)		2722	2722			3225			2570	2570		2170
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	525			625	625		675	200			150	
Storage Blk Time (%)								1			0	23
Queuing Penalty (veh)								0			0	32

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	SB
Directions Served	R
Maximum Queue (ft)	131
Average Queue (ft)	57
95th Queue (ft)	125
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	75
Storage Blk Time (%)	1
Queuing Penalty (veh)	1

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	L	T	R	L	T	R
Maximum Queue (ft)	194	268	176	345	450	171	309	152	314	600	114
Average Queue (ft)	72	118	28	165	197	32	124	37	40	278	45
95th Queue (ft)	146	225	99	291	362	96	240	95	147	503	89
Link Distance (ft)		2526			1890		1720			4006	4006
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	225		125	310		170		240	315		
Storage Blk Time (%)	0	10		1	2	0	4	0		8	
Queuing Penalty (veh)	0	13		4	4	0	6	0		2	

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	NB	NB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	46	106	330	44	58
Average Queue (ft)	9	46	133	2	14
95th Queue (ft)	32	80	260	45	41
Link Distance (ft)		1406		2070	2187
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	200		500		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	188	308	105	778	210	188	340	234	572
Average Queue (ft)	90	142	14	344	110	39	160	136	222
95th Queue (ft)	169	258	57	612	250	119	286	249	479
Link Distance (ft)		3237		3310			1227		1687
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	775		75		150	250		175	
Storage Blk Time (%)			0	46	0		3	5	14
Queuing Penalty (veh)			1	78	0		1	11	20

Intersection: 14: Roselle & Claribel

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	254	747	306	545
Average Queue (ft)	109	378	125	251
95th Queue (ft)	209	842	261	590
Link Distance (ft)	2415	2618	2319	2484
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	44	118	34	81	81
Average Queue (ft)	4	47	1	31	37
95th Queue (ft)	23	92	25	66	62
Link Distance (ft)	1820		1989	1587	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		125			150
Storage Blk Time (%)		0	0		
Queuing Penalty (veh)		2	0		

Intersection: 16: Claus Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	95	163	41	162	190	99	54	191	73	57	244	105
Average Queue (ft)	21	58	6	61	81	10	8	74	26	10	110	24
95th Queue (ft)	56	120	24	124	163	45	34	147	58	36	202	75
Link Distance (ft)		2148			2758			2156			2402	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		75	150		75	250		150	250		150
Storage Blk Time (%)		7	0	0	9	0		1			3	0
Queuing Penalty (veh)		3	0	0	11	0		1			2	0

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	55	79
Average Queue (ft)	9	42
95th Queue (ft)	37	68
Link Distance (ft)	2004	1916
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Bentley & Claribel

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	31	18	56	31	58	55
Average Queue (ft)	2	1	17	3	18	9
95th Queue (ft)	15	10	47	18	49	36
Link Distance (ft)	2720	2487	1498		1216	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			2	0	2	1
Queuing Penalty (veh)			0	0	0	0

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	161	405	172	145	490	259	127	84	122	126	106
Average Queue (ft)	47	184	19	31	222	37	55	33	55	31	42
95th Queue (ft)	113	340	94	92	400	147	101	68	103	83	84
Link Distance (ft)		4913			2604			1261		1636	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250		200	250		200	250		100		75
Storage Blk Time (%)		5			8				2	0	2
Queuing Penalty (veh)		5			7				3	1	3

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	468	260	360	670	302	275	329	197	509	423
Average Queue (ft)	85	193	165	157	328	85	152	157	75	296	218
95th Queue (ft)	133	366	266	331	605	175	258	265	144	472	381
Link Distance (ft)		2750			2507	2507		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	47	39	4	0	12			0			
Queuing Penalty (veh)	187	117	10	1	16			2			

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T
Maximum Queue (ft)	84	214	233	204	236	256	152	166	141	102	89	204
Average Queue (ft)	31	104	114	86	101	119	59	94	54	32	22	84
95th Queue (ft)	67	181	202	160	192	218	120	145	111	74	60	153
Link Distance (ft)		1972	1972		2690	2690			1873			2914
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			200			200	200		50	100	
Storage Blk Time (%)		0		0	1			0	13	1	0	8
Queuing Penalty (veh)		0		1	1			0	44	3	0	9

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	SB
Directions Served	R
Maximum Queue (ft)	156
Average Queue (ft)	46
95th Queue (ft)	103
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	161	76	64	36	115	119	62	260	237	149	248	225
Average Queue (ft)	66	19	13	3	37	49	12	139	87	61	120	81
95th Queue (ft)	129	58	46	20	89	92	40	229	199	118	211	181
Link Distance (ft)		5561			2237			1498			1981	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	225		225	400		300	400		300
Storage Blk Time (%)								0	0		0	
Queuing Penalty (veh)								0	0		0	

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	172	45	65	56	156	102	144	132	18	222	200	90
Average Queue (ft)	77	8	13	15	69	32	65	35	1	116	74	44
95th Queue (ft)	142	30	41	44	126	77	122	90	9	192	154	80
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)	0				0							
Queuing Penalty (veh)	0				0							

Intersection: 81: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	37
Average Queue (ft)	1
95th Queue (ft)	24
Link Distance (ft)	926
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101: SR 219 (Kiernan Ave)#1

Movement	SB
Directions Served	R
Maximum Queue (ft)	41
Average Queue (ft)	7
95th Queue (ft)	27
Link Distance (ft)	283
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 103: Claribel Rd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 109: Claribel Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	50
Average Queue (ft)	8
95th Queue (ft)	32
Link Distance (ft)	242
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 111: Oakdale Rd

Movement	EB	WB
Directions Served	R	R
Maximum Queue (ft)	18	57
Average Queue (ft)	1	11
95th Queue (ft)	9	37
Link Distance (ft)	780	866
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1371

1: Carver & SR 219 (Kiernan Ave) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.6	0.5	0.5	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1
Total Del/Veh (s)	17.5	27.8	18.8	17.1	23.2	13.8	7.1	11.4	5.4	7.7	10.8	3.8
Vehicles Exited	31	543	76	24	449	10	30	86	25	4	68	10
Hourly Exit Rate	31	543	76	24	449	10	30	86	25	4	68	10
Input Volume	32	541	76	26	464	8	34	85	25	4	69	9
% of Volume	98	100	100	91	97	125	89	101	99	100	98	111
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

1: Carver & SR 219 (Kiernan Ave) Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	22.3
Vehicles Exited	1356
Hourly Exit Rate	1356
Input Volume	1374
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.2	0.2	0.3
Total Del/Veh (s)	84.9	116.5	103.9	23.4	35.8	28.5	16.6	20.3	13.6	10.7	14.9	8.2
Vehicles Exited	40	453	58	131	417	23	52	130	104	17	101	15
Hourly Exit Rate	40	453	58	131	417	23	52	130	104	17	101	15
Input Volume	39	469	63	128	428	22	55	125	97	16	103	14
% of Volume	103	97	92	102	97	103	95	104	107	105	98	105
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1 Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	57.6
Vehicles Exited	1541
Hourly Exit Rate	1541
Input Volume	1560
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
Total Del/Veh (s)	45.8	23.6	14.0	48.8	32.2	7.1	46.7	30.4	20.6	42.5	25.4	10.8
Vehicles Exited	164	238	14	10	233	94	24	350	12	144	314	135
Hourly Exit Rate	164	238	14	10	233	94	24	350	12	144	314	135
Input Volume	171	234	12	10	237	96	26	341	10	144	316	131
% of Volume	96	102	114	98	98	98	91	103	117	100	99	103
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	28.7
Vehicles Exited	1732
Hourly Exit Rate	1732
Input Volume	1728
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	11.6	8.2	1.4	11.7	7.7
Vehicles Exited	114	384	320	339	1157
Hourly Exit Rate	114	384	320	339	1157
Input Volume	117	377	326	338	1158
% of Volume	97	102	98	100	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.4	0.4	0.0	0.1
Total Del/Veh (s)	14.6	20.0	2.9	7.0	9.7
Vehicles Exited	395	114	336	320	1165
Hourly Exit Rate	395	114	336	320	1165
Input Volume	390	117	342	326	1174
% of Volume	101	97	98	98	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd Performan

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.3	2.8	0.0	0.0	0.0
Total Del/Veh (s)	48.5	33.2	5.7	50.1	42.1	31.2	48.9	29.2	8.7	54.8	35.9	9.1
Vehicles Exited	238	306	190	121	285	44	123	599	180	23	402	137
Hourly Exit Rate	238	306	190	121	285	44	123	599	180	23	402	137
Input Volume	247	304	188	123	288	43	125	598	183	23	408	137
% of Volume	96	101	101	98	99	103	98	100	98	99	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd Performan

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	31.9
Vehicles Exited	2648
Hourly Exit Rate	2648
Input Volume	2668
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by mov

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.1	0.1	0.0	0.0	0.0	0.3	0.2	0.2	2.5	0.4	2.4
Total Del/Veh (s)	48.0	42.7	15.4	53.9	46.8	5.7	59.4	40.0	23.5	44.9	33.1	17.5
Vehicles Exited	172	619	240	70	434	127	248	714	91	325	840	141
Hourly Exit Rate	172	619	240	70	434	127	248	714	91	325	840	141
Input Volume	177	618	236	67	441	122	250	708	95	329	832	134
% of Volume	97	100	102	104	98	104	99	101	96	99	101	105
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by mov

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	38.2
Vehicles Exited	4021
Hourly Exit Rate	4021
Input Volume	4009
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

8: Coffee Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.4	0.0	0.0	0.0	0.0	0.0	0.8	0.8	3.3	0.4	0.3	2.4
Total Del/Veh (s)	216.0	217.9	206.0	48.1	52.4	39.4	36.6	40.0	31.6	14.2	16.9	8.7
Vehicles Exited	50	347	52	74	318	4	68	252	204	8	151	61
Hourly Exit Rate	50	347	52	74	318	4	68	252	204	8	151	61
Input Volume	58	377	56	72	320	3	70	249	204	8	146	64
% of Volume	86	92	93	102	99	133	97	101	100	100	104	95
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

8: Coffee Rd & Claribel Rd Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	91.4
Vehicles Exited	1589
Hourly Exit Rate	1589
Input Volume	1627
% of Volume	98
Denied Entry Before	0
Denied Entry After	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	262.5	266.1	267.1	0.1	0.1	0.1	130.8	123.6	121.9	0.1	0.1	0.1
Total Del/Veh (s)	198.5	203.3	198.8	10.7	16.0	12.0	233.8	238.6	245.5	7.0	10.3	6.9
Vehicles Exited	167	336	298	17	191	14	241	299	12	16	187	76
Hourly Exit Rate	167	336	298	17	191	14	241	299	12	16	187	76
Input Volume	207	408	354	19	193	12	284	347	15	16	186	84
% of Volume	81	82	84	88	99	117	85	86	80	100	101	90
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	29	64	55	0	0	0	28	29	2	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	All
Denied Del/Veh (s)	160.1
Total Del/Veh (s)	163.0
Vehicles Exited	1854
Hourly Exit Rate	1854
Input Volume	2125
% of Volume	87
Denied Entry Before	0
Denied Entry After	207

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.6	0.2	0.2	0.7	0.6	0.8	1.5	0.2	0.1	2.1	0.3	2.0
Total Del/Veh (s)	71.1	22.0	17.1	71.7	16.4	12.0	75.9	60.7	174.4	76.8	65.7	7.7
Vehicles Exited	81	570	109	363	355	22	101	85	230	42	67	49
Hourly Exit Rate	81	570	109	363	355	22	101	85	230	42	67	49
Input Volume	83	568	110	366	357	22	103	82	241	40	69	46
% of Volume	98	100	99	99	99	101	98	104	95	105	97	107
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	55.6
Vehicles Exited	2074
Hourly Exit Rate	2074
Input Volume	2086
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.1	3.3	0.7	0.2	0.0	0.0	0.0	0.2	0.1	0.1
Total Del/Veh (s)	56.2	47.0	19.2	53.4	39.3	2.3	68.4	41.0	19.7	58.4	38.2	7.4
Vehicles Exited	200	363	57	233	252	38	45	431	292	26	352	140
Hourly Exit Rate	200	363	57	233	252	38	45	431	292	26	352	140
Input Volume	215	376	58	231	255	39	45	438	284	28	357	135
% of Volume	93	97	98	101	99	98	101	99	103	92	99	104
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	38.9
Vehicles Exited	2429
Hourly Exit Rate	2429
Input Volume	2460
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	3.4	0.5	1.4	0.2	0.0	0.0	0.4
Total Del/Veh (s)	51.5	32.3	10.3	1.9	6.5	3.7	11.5
Vehicles Exited	54	398	176	729	562	55	1974
Hourly Exit Rate	54	398	176	729	562	55	1974
Input Volume	53	396	179	726	563	58	1975
% of Volume	102	101	98	100	100	95	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.8	0.8	0.9	0.4	0.4	0.4	3.7	0.4	0.4	8.6	7.3	7.0
Total Del/Veh (s)	61.2	36.6	29.9	82.9	42.2	15.7	44.9	50.0	34.4	129.3	140.0	123.5
Vehicles Exited	239	541	18	23	350	96	46	160	21	202	178	155
Hourly Exit Rate	239	541	18	23	350	96	46	160	21	202	178	155
Input Volume	234	532	17	23	357	96	48	162	21	201	175	156
% of Volume	102	102	104	101	98	100	95	99	101	100	102	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	All
Denied Del/Veh (s)	2.6
Total Del/Veh (s)	66.8
Vehicles Exited	2029
Hourly Exit Rate	2029
Input Volume	2023
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

14: Roselle & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.7	0.6	0.6	0.3	0.3	0.3	0.5	0.5	0.4	0.3	0.3	0.3
Total Del/Veh (s)	145.5	145.5	143.0	25.9	26.6	21.0	113.6	113.5	101.1	19.4	20.3	15.3
Vehicles Exited	50	307	120	30	266	61	133	297	24	35	219	41
Hourly Exit Rate	50	307	120	30	266	61	133	297	24	35	219	41
Input Volume	50	315	125	30	267	64	135	291	21	40	218	42
% of Volume	101	97	96	100	100	95	98	102	116	87	100	97
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	86.6
Vehicles Exited	1583
Hourly Exit Rate	1583
Input Volume	1598
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.6	0.6	2.2	0.7	0.7	3.8	1.2
Total Del/Veh (s)	4.4	2.9	12.2	3.1	45.5	10.1	6.8
Vehicles Exited	566	141	180	402	48	176	1513
Hourly Exit Rate	566	141	180	402	48	176	1513
Input Volume	574	136	178	395	45	172	1501
% of Volume	99	103	101	102	107	102	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.7	0.4	3.7	2.4	0.4	2.3	3.2	0.7	3.5	2.3	0.4	2.3
Total Del/Veh (s)	34.0	29.1	8.2	30.4	25.1	7.6	35.8	21.4	6.4	33.4	19.1	5.1
Vehicles Exited	41	204	19	113	156	18	15	293	139	19	268	77
Hourly Exit Rate	41	204	19	113	156	18	15	293	139	19	268	77
Input Volume	38	192	18	117	150	16	16	300	137	18	273	76
% of Volume	107	106	107	97	104	114	95	98	102	107	98	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

16: Claus Rd & Claribel Rd Performance by movement

Movement	All
Denied Del/Veh (s)	1.3
Total Del/Veh (s)	21.2
Vehicles Exited	1362
Hourly Exit Rate	1362
Input Volume	1350
% of Volume	101
Denied Entry Before	0
Denied Entry After	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.2	0.2	0.2	0.1	0.2
Total Del/Veh (s)	2.8	4.0	2.0	1.0	7.0	2.5	2.9
Vehicles Exited	167	143	122	16	6	63	517
Hourly Exit Rate	167	143	122	16	6	63	517
Input Volume	172	141	123	15	6	66	523
% of Volume	97	102	99	105	96	95	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)		0.3	0.3	0.2	0.2	0.2	0.1	0.1	4.1	0.2	0.1	4.0
Total Del/Veh (s)		1.1	0.7	2.0	0.9	0.2	4.6	9.0	2.0	5.3	8.6	2.0
Vehicles Exited	0	278	10	4	210	8	3	19	3	2	11	7
Hourly Exit Rate	0	278	10	4	210	8	3	19	3	2	11	7
Input Volume	1	280	9	6	210	7	3	17	2	3	10	7
% of Volume	0	99	111	70	100	119	92	113	133	62	110	104
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	1.5
Vehicles Exited	555
Hourly Exit Rate	555
Input Volume	555
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.7	0.8	0.7	0.6	0.6	0.5	3.9	0.4	0.4	2.4	0.3	2.4
Total Del/Veh (s)	39.8	19.6	10.8	36.0	19.0	8.4	28.0	22.6	15.3	27.8	20.5	10.5
Vehicles Exited	72	708	30	14	563	60	82	36	56	83	32	93
Hourly Exit Rate	72	708	30	14	563	60	82	36	56	83	32	93
Input Volume	77	712	30	16	562	57	81	40	52	77	34	88
% of Volume	94	99	99	86	100	106	101	91	108	108	93	105
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	20.1
Vehicles Exited	1829
Hourly Exit Rate	1829
Input Volume	1826
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performan

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.7	0.7	0.7	0.4	0.2	0.2	2.0	0.8	1.9	0.2	0.2	0.1
Total Del/Veh (s)	96.4	53.0	48.3	56.1	38.5	10.9	46.3	48.8	12.5	56.7	47.5	40.7
Vehicles Exited	88	532	50	125	377	366	84	312	180	341	344	58
Hourly Exit Rate	88	532	50	125	377	366	84	312	180	341	344	58
Input Volume	89	536	44	128	382	379	91	305	183	340	327	59
% of Volume	99	99	114	98	99	97	92	102	98	100	105	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performan

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	43.6
Vehicles Exited	2857
Hourly Exit Rate	2857
Input Volume	2863
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by m

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.9	0.2	0.2	1.1	0.2	0.2	2.7	0.8	2.5	0.2	0.2	0.2
Total Del/Veh (s)	39.3	21.5	15.4	41.5	20.9	14.5	35.8	27.7	8.9	43.8	33.0	9.2
Vehicles Exited	94	608	170	104	602	39	155	158	158	36	108	84
Hourly Exit Rate	94	608	170	104	602	39	155	158	158	36	108	84
Input Volume	92	602	170	104	592	37	158	158	156	37	113	86
% of Volume	102	101	100	100	102	106	98	100	101	98	96	97
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by m

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	23.4
Vehicles Exited	2316
Hourly Exit Rate	2316
Input Volume	2306
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	0.4	3.9	3.3	0.6	2.8	3.1	1.0	3.1	1.3
Total Del/Veh (s)	34.7	35.1	4.3	37.9	5.9	41.1	24.0	5.6	34.5	13.7	4.8	20.6
Vehicles Exited	109	34	16	21	107	17	615	3	133	469	103	1627
Hourly Exit Rate	109	34	16	21	107	17	615	3	133	469	103	1627
Input Volume	111	35	14	20	103	18	619	2	133	474	102	1631
% of Volume	98	97	112	106	104	96	99	150	100	99	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.7	0.7	3.8	2.6	0.1	0.1	3.2	0.1	0.2	2.8	0.2	3.3
Total Del/Veh (s)	19.6	15.7	3.6	28.4	26.2	7.0	23.5	9.3	3.1	23.6	11.5	3.4
Vehicles Exited	126	89	60	10	44	6	34	464	21	2	344	158
Hourly Exit Rate	126	89	60	10	44	6	34	464	21	2	344	158
Input Volume	126	87	61	12	42	5	35	480	21	2	343	155
% of Volume	100	103	98	82	105	120	98	97	99	100	100	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	11.2
Vehicles Exited	1358
Hourly Exit Rate	1358
Input Volume	1369
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

24: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	219	219
Hourly Exit Rate	219	219
Input Volume	215	215
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

25: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	231	231
Hourly Exit Rate	231	231
Input Volume	237	237
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

26: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.0	2.0
Vehicles Exited	502	502
Hourly Exit Rate	502	502
Input Volume	559	559
% of Volume	90	90
Denied Entry Before	0	0
Denied Entry After	0	0

27: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	306	306
Hourly Exit Rate	306	306
Input Volume	310	310
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

28: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	186	186
Hourly Exit Rate	186	186
Input Volume	189	189
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

29: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	741	741
Hourly Exit Rate	741	741
Input Volume	746	746
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

30: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	288	288
Hourly Exit Rate	288	288
Input Volume	294	294
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

31: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.0	0.5	0.2
Total Del/Veh (s)	5.9	2.8	4.7
Vehicles Exited	882	563	1445
Hourly Exit Rate	882	563	1445
Input Volume	888	568	1457
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

32: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	182	182
Hourly Exit Rate	182	182
Input Volume	187	187
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

33: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	1150	1150
Hourly Exit Rate	1150	1150
Input Volume	1135	1135
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

34: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	401	401
Hourly Exit Rate	401	401
Input Volume	408	408
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

35: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	1052	1052
Hourly Exit Rate	1052	1052
Input Volume	1059	1059
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

37: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	5.6	5.6
Vehicles Exited	832	832
Hourly Exit Rate	832	832
Input Volume	833	833
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

38: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	1035	1035
Hourly Exit Rate	1035	1035
Input Volume	1042	1042
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

39: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	7.1	7.1
Vehicles Exited	392	392
Hourly Exit Rate	392	392
Input Volume	394	394
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

40: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	839	839
Hourly Exit Rate	839	839
Input Volume	849	849
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	802	802
Hourly Exit Rate	802	802
Input Volume	795	795
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	6.5	6.5
Vehicles Exited	606	606
Hourly Exit Rate	606	606
Input Volume	608	608
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	10.0	10.0
Vehicles Exited	771	771
Hourly Exit Rate	771	771
Input Volume	774	774
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	7.9	7.9
Vehicles Exited	765	765
Hourly Exit Rate	765	765
Input Volume	754	754
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	188	188
Hourly Exit Rate	188	188
Input Volume	187	187
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	290	290
Hourly Exit Rate	290	290
Input Volume	287	287
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	382	382
Hourly Exit Rate	382	382
Input Volume	387	387
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	169	169
Hourly Exit Rate	169	169
Input Volume	170	170
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	169	169
Hourly Exit Rate	169	169
Input Volume	174	174
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	77	77
Hourly Exit Rate	77	77
Input Volume	81	81
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	824	824
Hourly Exit Rate	824	824
Input Volume	825	825
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.0	4.0
Vehicles Exited	485	485
Hourly Exit Rate	485	485
Input Volume	488	488
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	955	955
Hourly Exit Rate	955	955
Input Volume	958	958
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

54: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	362	362
Hourly Exit Rate	362	362
Input Volume	347	347
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

58: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	6.9	6.9
Vehicles Exited	1017	1017
Hourly Exit Rate	1017	1017
Input Volume	1007	1007
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	276	276
Hourly Exit Rate	276	276
Input Volume	274	274
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	712	712
Hourly Exit Rate	712	712
Input Volume	714	714
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

63: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.0	0.0
Vehicles Exited	20	20
Hourly Exit Rate	20	20
Input Volume	19	19
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

64: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	455	455
Hourly Exit Rate	455	455
Input Volume	455	455
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	8.4	8.4
Vehicles Exited	670	670
Hourly Exit Rate	670	670
Input Volume	689	689
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	148	148
Hourly Exit Rate	148	148
Input Volume	147	147
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.0	1.0
Vehicles Exited	321	321
Hourly Exit Rate	321	321
Input Volume	314	314
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	191	191
Hourly Exit Rate	191	191
Input Volume	186	186
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	127	127
Hourly Exit Rate	127	127
Input Volume	125	125
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	168	168
Hourly Exit Rate	168	168
Input Volume	172	172
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.0	0.0
Vehicles Exited	41	41
Hourly Exit Rate	41	41
Input Volume	40	40
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

74: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	406	406
Hourly Exit Rate	406	406
Input Volume	404	404
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

75: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	370	370
Hourly Exit Rate	370	370
Input Volume	373	373
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	488	488
Hourly Exit Rate	488	488
Input Volume	506	506
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

77: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	26	26
Hourly Exit Rate	26	26
Input Volume	26	26
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	14	14
Hourly Exit Rate	14	14
Input Volume	14	14
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	234	234
Hourly Exit Rate	234	234
Input Volume	231	231
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	111	111
Hourly Exit Rate	111	111
Input Volume	110	110
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

81: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.5	0.2
Total Del/Veh (s)	8.7	1.2	5.8
Vehicles Exited	1037	629	1666
Hourly Exit Rate	1037	629	1666
Input Volume	1042	630	1672
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	6.9	6.9
Vehicles Exited	846	846
Hourly Exit Rate	846	846
Input Volume	841	841
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	10.1	10.1
Vehicles Exited	737	737
Hourly Exit Rate	737	737
Input Volume	731	731
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	413	413
Hourly Exit Rate	413	413
Input Volume	416	416
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	596	596
Hourly Exit Rate	596	596
Input Volume	612	612
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.7	0.0	0.4
Total Del/Veh (s)	4.2	2.2	3.4
Vehicles Exited	704	454	1158
Hourly Exit Rate	704	454	1158
Input Volume	702	455	1158
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	220	220
Hourly Exit Rate	220	220
Input Volume	220	220
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

92: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	283	283
Hourly Exit Rate	283	283
Input Volume	286	286
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	496	496
Hourly Exit Rate	496	496
Input Volume	492	492
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	25	25
Hourly Exit Rate	25	25
Input Volume	25	25
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	27	27
Hourly Exit Rate	27	27
Input Volume	24	24
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	442	442
Hourly Exit Rate	442	442
Input Volume	444	444
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

100: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.0	4.0
Vehicles Exited	367	367
Hourly Exit Rate	367	367
Input Volume	376	376
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

101: SR 219 (Kiernan Ave)#1 Performance by movement

Movement	EBT	WBT	NBR	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	7.9	5.3	3.2	3.1	6.2
Vehicles Exited	574	547	158	28	1307
Hourly Exit Rate	574	547	158	28	1307
Input Volume	582	553	157	28	1319
% of Volume	99	99	101	99	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

102: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	8.3	8.3
Vehicles Exited	878	878
Hourly Exit Rate	878	878
Input Volume	888	888
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

103: Claribel Rd Performance by movement

Movement	EBT	EBR	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.9	4.9	5.9	5.9
Vehicles Exited	489	20	452	961
Hourly Exit Rate	489	20	452	961
Input Volume	492	19	459	970
% of Volume	99	104	98	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	713	713
Hourly Exit Rate	713	713
Input Volume	719	719
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	479	479
Hourly Exit Rate	479	479
Input Volume	566	566
% of Volume	85	85
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	507	507
Hourly Exit Rate	507	507
Input Volume	561	561
% of Volume	90	90
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	507	507
Hourly Exit Rate	507	507
Input Volume	506	506
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.0	3.0
Vehicles Exited	544	544
Hourly Exit Rate	544	544
Input Volume	545	545
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

109: Claribel Rd Performance by movement

Movement	EBT	WBT	WBR	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	6.0	5.7	4.8	3.4	5.7
Vehicles Exited	567	398	41	46	1052
Hourly Exit Rate	567	398	41	46	1052
Input Volume	596	398	40	47	1081
% of Volume	95	100	103	98	97
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	364	364
Hourly Exit Rate	364	364
Input Volume	439	439
% of Volume	83	83
Denied Entry Before	0	0
Denied Entry After	0	0

111: Oakdale Rd Performance by movement

Movement	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.6	2.8	4.7	4.4	4.1
Vehicles Exited	770	14	622	26	1432
Hourly Exit Rate	770	14	622	26	1432
Input Volume	765	14	625	26	1431
% of Volume	101	98	99	99	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	6.9	6.9
Vehicles Exited	550	550
Hourly Exit Rate	550	550
Input Volume	561	561
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	667	667
Hourly Exit Rate	667	667
Input Volume	674	674
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	353	353
Hourly Exit Rate	353	353
Input Volume	354	354
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	450	450
Hourly Exit Rate	450	450
Input Volume	440	440
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	838	838
Hourly Exit Rate	838	838
Input Volume	837	837
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	522	522
Hourly Exit Rate	522	522
Input Volume	498	498
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	7.6	7.6
Vehicles Exited	518	518
Hourly Exit Rate	518	518
Input Volume	532	532
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

122: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	246	246
Hourly Exit Rate	246	246
Input Volume	242	242
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	140	140
Hourly Exit Rate	140	140
Input Volume	140	140
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

Total Network Performance

Denied Del/Veh (s)	10.7
Total Del/Veh (s)	55.3
Vehicles Exited	33773
Hourly Exit Rate	33773
Input Volume	84646
% of Volume	40
Denied Entry Before	0
Denied Entry After	207

Intersection: 1: Carver & SR 219 (Kiernan Ave)

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	R	L	T	R	LTR	LTR
Maximum Queue (ft)	139	429	80	83	161	79	97	73
Average Queue (ft)	40	169	61	22	86	12	40	30
95th Queue (ft)	119	351	104	61	136	50	75	58
Link Distance (ft)		3301			2566		2454	2396
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	80		50	70		50		
Storage Blk Time (%)	0	46	2	0	25	0		
Queuing Penalty (veh)	0	50	9	1	9	1		

Intersection: 2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	210	1139	185	454	185	118
Average Queue (ft)	106	527	90	175	91	48
95th Queue (ft)	262	1167	192	381	155	88
Link Distance (ft)		2566		3643	3718	3994
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150		125			
Storage Blk Time (%)	0	68	0	23		
Queuing Penalty (veh)	0	26	0	30		

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	230	221	123	331	219	94	208	193	208	202	187
Average Queue (ft)	123	105	19	148	50	24	105	97	101	103	68
95th Queue (ft)	209	189	74	256	132	68	179	161	179	180	141
Link Distance (ft)		5459		491			464	464		5159	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250		90		160	185			290		800
Storage Blk Time (%)	0	0	0	24	0		1				
Queuing Penalty (veh)	0	0	0	25	0		0				

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	127	184	212	158
Average Queue (ft)	50	79	79	30
95th Queue (ft)	105	148	174	104
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	NB
Directions Served	TR	L	R
Maximum Queue (ft)	272	148	146
Average Queue (ft)	129	59	63
95th Queue (ft)	232	111	117
Link Distance (ft)	491		672
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		530	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel R

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	T	R	L	T	T
Maximum Queue (ft)	283	372	104	253	392	226	304	290	153	100	232	222
Average Queue (ft)	173	169	40	108	198	102	176	149	52	26	125	127
95th Queue (ft)	275	303	83	211	330	186	264	246	112	73	202	197
Link Distance (ft)		1460	1460		2548		1976	1976			439	439
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			200		260			540	200		
Storage Blk Time (%)	4	2		0	10	0	1				1	
Queuing Penalty (veh)	12	6		1	12	0	1				0	

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel R

Movement	SB
Directions Served	R
Maximum Queue (ft)	131
Average Queue (ft)	55
95th Queue (ft)	104
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	300
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	R	L	L	T	T	T	R	L
Maximum Queue (ft)	127	144	302	327	183	72	116	203	203	188	159	205
Average Queue (ft)	58	75	193	205	84	25	40	117	113	84	37	90
95th Queue (ft)	106	126	281	302	154	59	83	178	173	151	112	167
Link Distance (ft)			4940	4940	4940			926	926			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	350	350				300	300			350	350	225
Storage Blk Time (%)												0
Queuing Penalty (veh)												0

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	284	440	454	110	225	260	543	527	110
Average Queue (ft)	144	235	260	53	107	178	282	283	62
95th Queue (ft)	259	371	398	130	202	292	452	450	133
Link Distance (ft)		3865	3865				1774	1774	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	225			50	200	200			50
Storage Blk Time (%)	0	8	52	2	0	2	16	45	2
Queuing Penalty (veh)	1	20	49	7	1	8	52	61	8

Intersection: 8: Coffee Rd & Claribel Rd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	1462	436	488	67	145	67
Average Queue (ft)	878	222	209	48	66	37
95th Queue (ft)	1744	400	445	59	111	62
Link Distance (ft)	2563	2625	1547		1995	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			59	32	30	9
Queuing Penalty (veh)			121	102	19	14

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	1421	162	1284	165
Average Queue (ft)	1364	69	1092	60
95th Queue (ft)	1559	129	1560	121
Link Distance (ft)	1369	1645	1232	1231
Upstream Blk Time (%)	66		53	
Queuing Penalty (veh)	0		0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T
Maximum Queue (ft)	195	275	302	371	390	148	168	243	325	804	148	200
Average Queue (ft)	89	143	146	172	189	58	66	106	86	414	50	74
95th Queue (ft)	166	256	268	306	320	124	139	202	213	865	111	160
Link Distance (ft)		2722	2722			3152			2570	2570		2170
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	525			625	625		675	200			150	
Storage Blk Time (%)								3	1		0	18
Queuing Penalty (veh)								2	1		0	15

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	SB
Directions Served	R
Maximum Queue (ft)	120
Average Queue (ft)	34
95th Queue (ft)	89
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	75
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	L	T	R	L	T	R
Maximum Queue (ft)	284	480	185	346	369	229	623	300	114	402	109
Average Queue (ft)	166	250	62	193	164	63	288	146	29	218	47
95th Queue (ft)	280	411	184	312	295	170	542	317	81	357	90
Link Distance (ft)		2526			1890		1720			4006	4006
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	225		125	310		170		240	315		
Storage Blk Time (%)	2	33	0	1	1		22	0		2	
Queuing Penalty (veh)	9	89	0	2	2		73	2		1	

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	NB	SB
Directions Served	L	R	L	TR
Maximum Queue (ft)	210	390	153	42
Average Queue (ft)	67	179	60	4
95th Queue (ft)	178	351	116	22
Link Distance (ft)		1406		2187
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	200		500	
Storage Blk Time (%)	0	14		
Queuing Penalty (veh)	0	8		

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	352	597	134	517	210	162	313	235	1274
Average Queue (ft)	205	316	37	257	82	45	158	202	765
95th Queue (ft)	337	519	104	431	214	113	271	292	1591
Link Distance (ft)		3481		3304			1227		1689
Upstream Blk Time (%)									7
Queuing Penalty (veh)									0
Storage Bay Dist (ft)	775		75		150	250		175	
Storage Blk Time (%)			2	47	0		2	16	49
Queuing Penalty (veh)			10	56	0		1	55	99

Intersection: 14: Roselle & Claribel

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	1129	289	950	230
Average Queue (ft)	675	140	501	106
95th Queue (ft)	1475	256	1122	178
Link Distance (ft)	2084	2830	2319	2484
Upstream Blk Time (%)	1			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	59	152	82	117	135
Average Queue (ft)	9	60	3	43	59
95th Queue (ft)	35	113	48	93	105
Link Distance (ft)	1822		1982	1586	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		125			150
Storage Blk Time (%)		1	0	0	0
Queuing Penalty (veh)		4	0	1	0

Intersection: 16: Claus Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	115	197	108	158	195	98	51	231	139	56	219	108
Average Queue (ft)	34	101	14	67	76	12	13	110	37	16	102	24
95th Queue (ft)	86	175	57	127	151	58	39	196	86	44	185	67
Link Distance (ft)		1949			2758			2156			2402	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		75	150		75	250		150	250		150
Storage Blk Time (%)		18	0	1	10	0		3	0		2	
Queuing Penalty (veh)		10	0	1	13	0		4	0		2	

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	79	3	61
Average Queue (ft)	20	0	30
95th Queue (ft)	59	0	54
Link Distance (ft)	2004	5483	1916
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Bentley & Claribel

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	6	15	43	26	59	40
Average Queue (ft)	0	1	16	3	12	6
95th Queue (ft)	4	9	43	16	41	27
Link Distance (ft)	2720	2487	1498		1216	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			2	0	1	0
Queuing Penalty (veh)			0	0	0	0

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	239	427	189	155	526	260	129	121	112	102	85
Average Queue (ft)	58	193	18	20	223	42	50	45	50	21	32
95th Queue (ft)	143	344	97	95	401	161	99	93	95	69	66
Link Distance (ft)		4920			2614			1261		1636	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250		200	250		200	250		100		75
Storage Blk Time (%)		6			8				1	0	1
Queuing Penalty (veh)		6			6				1	0	1

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	841	260	350	532	241	284	278	185	551	437
Average Queue (ft)	85	369	222	132	263	100	166	173	76	335	254
95th Queue (ft)	130	811	300	277	446	185	257	259	137	497	398
Link Distance (ft)		2754			2542	2542		1985		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	52	50	13	0	5			0			
Queuing Penalty (veh)	298	199	47	0	7			0			

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T
Maximum Queue (ft)	155	275	298	157	251	272	108	146	223	110	121	182
Average Queue (ft)	64	152	160	70	129	143	36	71	95	64	34	74
95th Queue (ft)	129	250	264	128	218	237	83	119	189	118	85	139
Link Distance (ft)		1983	1983		2687	2687			1876			2914
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			200			200	200		50	100	
Storage Blk Time (%)		1		0	1			0	27	5	1	5
Queuing Penalty (veh)		1		0	1			0	84	17	1	7

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	SB
Directions Served	R
Maximum Queue (ft)	148
Average Queue (ft)	42
95th Queue (ft)	92
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	191	101	56	75	88	69	296	254	175	202	169
Average Queue (ft)	82	29	11	18	37	17	174	126	88	91	59
95th Queue (ft)	153	71	38	53	72	52	262	239	157	168	137
Link Distance (ft)		5669		2158			1499			1983	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	225		225		225	400		300	400		300
Storage Blk Time (%)	0						0	0			
Queuing Penalty (veh)	0						0	0			

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	148	90	50	50	91	91	151	123	24	174	133	87
Average Queue (ft)	62	32	16	10	34	25	70	38	1	76	36	40
95th Queue (ft)	118	72	37	35	72	67	125	90	12	137	92	74
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)	0											
Queuing Penalty (veh)	0											

Intersection: 31: Bend

Movement	NB	NB
Directions Served	T	
Maximum Queue (ft)	298	39
Average Queue (ft)	14	1
95th Queue (ft)	114	28
Link Distance (ft)	439	439
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 81: Bend

Movement	EB	EB
Directions Served	T	
Maximum Queue (ft)	277	22
Average Queue (ft)	18	1
95th Queue (ft)	134	13
Link Distance (ft)	926	926
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 101: SR 219 (Kiernan Ave)#1

Movement	NB	SB
Directions Served	R	R
Maximum Queue (ft)	96	53
Average Queue (ft)	37	10
95th Queue (ft)	78	34
Link Distance (ft)	332	283
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 103: Claribel Rd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 109: Claribel Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	64
Average Queue (ft)	17
95th Queue (ft)	47
Link Distance (ft)	242
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 111: Oakdale Rd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 1785

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Volume and Delay by Movement **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **All-way Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	151	153	101.1%	17.2	4.1	C
	Through	53	58	110.0%	21.0	4.7	C
	Right Turn	13	13	98.5%	14.7	3.5	B
	Subtotal	**217**	**224**	**103.1%**	**18.1**	**4.2**	**C**
SB	Left Turn	7	6	87.1%	13.1	4.3	B
	Through	114	116	101.7%	19.3	2.7	C
	Right Turn	58	61	105.7%	11.8	3.0	B
	Subtotal	**179**	**183**	**102.4%**	**16.5**	**2.6**	**C**
EB	Left Turn	28	26	91.1%	29.0	12.9	D
	Through	406	404	99.6%	41.9	12.6	E
	Right Turn	93	93	100.0%	32.0	11.8	D
	Subtotal	**527**	**523**	**99.2%**	**39.5**	**12.3**	**E**
WB	Left Turn	56	49	86.6%	157.0	23.7	F
	Through	534	499	93.4%	170.2	18.2	F
	Right Turn	30	28	92.7%	155.5	30.0	F
	Subtotal	**620**	**575**	**92.7%**	**168.3**	**18.8**	**F**
Total		**1,543**	**1,505**	**97.5%**	**82.7**	**9.2**	**F**

Intersection 2 **Tully Road/Kiernan Avenue** **All-way Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	67	67	100.1%	11.2	3.0	B
	Through	60	58	97.2%	15.5	2.4	C
	Right Turn	83	83	99.8%	8.1	1.6	A
	Subtotal	**210**	**208**	**99.1%**	**11.2**	**2.2**	**B**
SB	Left Turn	16	13	80.6%	9.1	2.1	A
	Through	90	92	101.8%	14.5	1.1	B
	Right Turn	37	39	105.9%	7.8	2.0	A
	Subtotal	**143**	**144**	**100.5%**	**12.2**	**1.2**	**B**
EB	Left Turn	21	20	95.7%	10.3	0.7	B
	Through	340	335	98.5%	20.3	2.9	C
	Right Turn	65	68	104.3%	13.0	2.6	B
	Subtotal	**426**	**423**	**99.2%**	**18.7**	**2.8**	**C**
WB	Left Turn	122	122	100.1%	31.9	13.1	D
	Through	516	513	99.5%	47.1	16.0	E
	Right Turn	4	4	107.5%	45.8	28.7	E
	Subtotal	**642**	**640**	**99.7%**	**44.1**	**15.3**	**E**
Total		**1,421**	**1,414**	**99.5%**	**28.4**	**7.6**	**D**

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Volume and Delay by Movement **AM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	13	13	100.0%	49.3	7.6	D
	Through	189	191	101.2%	23.5	1.7	C
	Right Turn	4	5	125.0%	14.4	8.3	B
	Subtotal	**206**	**209**	**101.6%**	**24.9**	**1.6**	**C**
SB	Left Turn	60	60	100.2%	41.1	2.9	D
	Through	350	360	102.8%	27.2	1.5	C
	Right Turn	214	213	99.3%	12.9	1.1	B
	Subtotal	**624**	**632**	**101.3%**	**23.7**	**1.2**	**C**
EB	Left Turn	90	91	101.0%	38.2	3.4	D
	Through	89	91	101.8%	20.6	2.3	C
	Right Turn	21	23	110.0%	7.5	1.8	A
	Subtotal	**200**	**205**	**102.3%**	**26.9**	**1.4**	**C**
WB	Left Turn	15	16	103.3%	47.7	8.0	D
	Through	312	311	99.8%	29.1	1.2	C
	Right Turn	125	128	102.7%	6.7	0.6	A
	Subtotal	**452**	**455**	**100.7%**	**23.4**	**1.2**	**C**
Total		**1,482**	**1,501**	**101.3%**	**24.2**	**0.7**	**C**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	206	209	101.4%	6.5	0.9	A
	Right Turn	110	115	104.5%	0.4	0.1	A
	Subtotal	**316**	**324**	**102.5%**	**4.3**	**0.6**	**A**
SB	Left Turn						
	Through	386	398	103.2%	13.8	0.8	B
	Right Turn						
	Subtotal	**386**	**398**	**103.2%**	**13.8**	**0.8**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	205	209	101.8%	14.3	1.6	B
	Through						
	Right Turn						
	Subtotal	**205**	**209**	**101.8%**	**14.3**	**1.6**	**B**
Total		**907**	**931**	**102.6%**	**10.6**	**0.6**	**B**

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Volume and Delay by Movement **AM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	110	116	105.2%	3.6	0.4	A
	Subtotal	**110**	**116**	**105.2%**	**3.6**	**0.4**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	153	159	104.0%	10.5	1.4	B
	Right Turn						
	Subtotal	**153**	**159**	**104.0%**	**10.5**	**1.4**	**B**
WB	Left Turn	205	210	102.2%	14.4	0.9	B
	Through	452	451	99.8%	3.9	0.3	A
	Right Turn						
	Subtotal	**657**	**661**	**100.6%**	**7.3**	**0.4**	**A**
Total		**920**	**936**	**101.7%**	**7.4**	**0.2**	**A**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	71	73	102.8%	42.0	3.0	D
	Through	246	244	99.0%	21.9	1.5	C
	Right Turn	56	56	99.1%	3.7	0.6	A
	Subtotal	**373**	**372**	**99.8%**	**23.2**	**1.0**	**C**
SB	Left Turn	29	28	95.2%	45.7	5.0	D
	Through	482	490	101.6%	27.7	1.7	C
	Right Turn	170	172	101.1%	10.5	1.0	B
	Subtotal	**681**	**689**	**101.2%**	**24.1**	**1.2**	**C**
EB	Left Turn	85	84	99.2%	40.7	4.4	D
	Through	146	141	96.4%	28.9	3.1	C
	Right Turn	83	79	95.2%	4.8	0.9	A
	Subtotal	**314**	**304**	**96.8%**	**25.9**	**2.6**	**C**
WB	Left Turn	186	179	96.2%	42.9	2.3	D
	Through	388	387	99.8%	37.0	3.2	D
	Right Turn	50	47	93.2%	26.6	3.7	C
	Subtotal	**624**	**613**	**98.2%**	**37.9**	**2.6**	**D**
Total		**1,992**	**1,979**	**99.3%**	**28.5**	**1.1**	**C**

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Volume and Delay by Movement **AM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	184	187	101.7%	44.5	2.9	D
	Through	523	530	101.4%	28.8	2.0	C
	Right Turn	30	32	106.3%	13.0	3.7	B
	Subtotal	**737**	**749**	**101.7%**	**32.1**	**1.9**	**C**
SB	Left Turn	59	57	96.9%	45.4	3.5	D
	Through	528	530	100.4%	26.5	2.3	C
	Right Turn	88	91	103.0%	10.0	1.6	A
	Subtotal	**675**	**678**	**100.4%**	**25.9**	**2.1**	**C**
EB	Left Turn	184	182	98.9%	41.8	2.3	D
	Through	409	416	101.7%	27.9	0.7	C
	Right Turn	143	147	102.7%	7.3	0.8	A
	Subtotal	**736**	**745**	**101.2%**	**27.3**	**0.9**	**C**
WB	Left Turn	50	48	96.8%	47.0	5.7	D
	Through	617	628	101.8%	32.7	1.5	C
	Right Turn	236	244	103.2%	9.1	1.4	A
	Subtotal	**903**	**920**	**101.9%**	**27.2**	**1.2**	**C**
Total		**3,051**	**3,092**	**101.4%**	**28.1**	**1.2**	**C**

Intersection 8 **Coffee Road/Claribel Road** **All-way Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	90	91	100.9%	16.2	2.0	C
	Through	98	94	95.8%	18.5	2.5	C
	Right Turn	84	87	103.3%	9.4	1.2	A
	Subtotal	**272**	**272**	**99.8%**	**14.8**	**2.0**	**B**
SB	Left Turn	9	8	84.4%	19.8	7.2	C
	Through	252	254	100.8%	26.3	3.9	D
	Right Turn	139	143	103.0%	18.5	3.9	C
	Subtotal	**400**	**405**	**101.2%**	**23.5**	**3.9**	**C**
EB	Left Turn	19	18	92.1%	18.5	3.8	C
	Through	176	172	97.6%	22.6	2.3	C
	Right Turn	36	34	93.3%	15.4	2.6	C
	Subtotal	**231**	**223**	**96.5%**	**21.2**	**2.1**	**C**
WB	Left Turn	81	78	95.8%	189.6	55.3	F
	Through	395	375	95.0%	201.5	59.0	F
	Right Turn	2	3	130.0%	205.4	136.2	F
	Subtotal	**478**	**455**	**95.3%**	**199.8**	**58.4**	**F**
Total		**1,381**	**1,355**	**98.1%**	**80.4**	**18.9**	**F**

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Volume and Delay by Movement **AM Peak Hour**

Intersection 9 **Coffee Road/Claratina Avenue** **Roundabout**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	333	322	96.7%	7.9	2.2	A
	Through	202	199	98.5%	11.5	2.2	B
	Right Turn	2	2	95.0%	6.7	5.6	A
	Subtotal	**537**	**523**	**97.3%**	**9.2**	**2.2**	**A**
SB	Left Turn	12	11	90.8%	106.1	63.6	F
	Through	259	266	102.7%	114.7	57.2	F
	Right Turn	96	99	103.3%	111.9	58.1	F
	Subtotal	**367**	**376**	**102.5%**	**113.7**	**57.4**	**F**
EB	Left Turn	63	60	95.7%	6.3	1.8	A
	Through	134	126	94.2%	9.3	0.9	A
	Right Turn	205	207	101.0%	6.0	1.0	A
	Subtotal	**402**	**394**	**97.9%**	**7.1**	**1.0**	**A**
WB	Left Turn	21	22	102.4%	134.7	73.7	F
	Through	422	426	101.0%	137.8	69.9	F
	Right Turn	17	20	114.7%	132.8	70.2	F
	Subtotal	**460**	**467**	**101.6%**	**137.5**	**70.0**	**F**
Total		**1,766**	**1,760**	**99.6%**	**65.0**	**23.8**	**F**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	112	109	97.2%	60.0	5.2	E
	Through	52	53	101.9%	44.7	5.8	D
	Right Turn	139	137	98.7%	55.2	7.0	E
	Subtotal	**303**	**299**	**98.7%**	**55.1**	**5.0**	**E**
SB	Left Turn	44	43	98.6%	58.6	6.8	E
	Through	99	97	98.4%	54.1	6.0	D
	Right Turn	95	96	100.6%	10.3	3.8	B
	Subtotal	**238**	**236**	**99.3%**	**37.3**	**5.8**	**D**
EB	Left Turn	34	30	86.8%	61.7	7.7	E
	Through	255	262	102.6%	17.2	1.0	B
	Right Turn	38	39	103.2%	9.1	2.1	A
	Subtotal	**327**	**330**	**101.0%**	**20.2**	**0.9**	**C**
WB	Left Turn	233	238	102.3%	51.6	3.5	D
	Through	503	507	100.7%	14.6	1.3	B
	Right Turn	28	27	97.1%	10.0	3.0	A
	Subtotal	**764**	**772**	**101.0%**	**25.9**	**2.0**	**C**
Total		**1,632**	**1,638**	**100.4%**	**31.7**	**2.3**	**C**

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Volume and Delay by Movement **AM Peak Hour**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	28	29	102.5%	52.9	3.7	D
	Through	255	260	102.1%	25.7	1.9	C
	Right Turn	123	124	100.8%	6.8	1.1	A
	Subtotal	**406**	**413**	**101.7%**	**21.9**	**1.2**	**C**
SB	Left Turn	31	29	93.2%	54.2	6.7	D
	Through	479	473	98.8%	39.3	7.9	D
	Right Turn	136	136	100.1%	8.3	1.2	A
	Subtotal	**646**	**638**	**98.8%**	**33.4**	**6.0**	**C**
EB	Left Turn	90	87	97.1%	46.2	5.2	D
	Through	177	176	99.2%	39.5	3.2	D
	Right Turn	40	42	106.0%	13.8	2.1	B
	Subtotal	**307**	**305**	**99.4%**	**37.9**	**3.0**	**D**
WB	Left Turn	222	215	96.9%	47.3	3.6	D
	Through	333	329	98.8%	37.0	2.4	D
	Right Turn	30	34	113.0%	2.4	0.2	A
	Subtotal	**585**	**578**	**98.8%**	**38.9**	**2.3**	**D**
Total		**1,944**	**1,935**	**99.5%**	**33.3**	**2.7**	**C**

Intersection 12 **Oakdale Road/Claratina Avenue** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	354	356	100.7%	22.0	4.2	C
	Through	356	363	101.9%	1.6	0.2	A
	Right Turn						
	Subtotal	**710**	**719**	**101.3%**	**11.7**	**2.4**	**B**
SB	Left Turn						
	Through	616	617	100.2%	8.2	0.4	A
	Right Turn	127	126	99.3%	5.4	0.5	A
	Subtotal	**743**	**743**	**100.1%**	**7.7**	**0.4**	**A**
EB	Left Turn	6	7	116.7%	82.0	71.0	F
	Through						
	Right Turn	139	138	99.5%	9.9	1.9	A
	Subtotal	**145**	**145**	**100.2%**	**13.5**	**3.8**	**B**
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,598**	**1,608**	**100.6%**	**10.0**	**1.4**	**A**

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Volume and Delay by Movement **AM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	42	36	85.2%	37.5	6.8	D
	Through	154	151	98.1%	48.3	5.5	D
	Right Turn	27	28	103.3%	35.8	5.6	D
	Subtotal	**223**	**215**	**96.3%**	**45.0**	**4.8**	**D**
SB	Left Turn	141	141	100.3%	46.6	8.4	D
	Through	93	93	99.7%	52.7	13.9	D
	Right Turn	140	133	94.9%	35.3	8.5	D
	Subtotal	**374**	**367**	**98.1%**	**43.9**	**9.2**	**D**
EB	Left Turn	106	105	99.2%	50.3	4.2	D
	Through	313	312	99.7%	21.7	1.3	C
	Right Turn	11	13	117.3%	14.7	4.1	B
	Subtotal	**430**	**430**	**100.0%**	**28.6**	**2.3**	**C**
WB	Left Turn	12	10	80.8%	76.1	16.8	E
	Through	470	472	100.4%	40.9	4.1	D
	Right Turn	157	153	97.4%	20.9	4.0	C
	Subtotal	**639**	**634**	**99.3%**	**36.6**	**3.7**	**D**
Total		**1,666**	**1,646**	**98.8%**	**37.3**	**4.0**	**D**

Intersection 14 **Roselle Road/Claribel Road** **All-way Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	94	93	99.1%	25.2	9.9	D
	Through	220	220	100.2%	28.5	9.0	D
	Right Turn	20	20	102.0%	23.8	14.0	C
	Subtotal	**334**	**334**	**100.0%**	**27.3**	**9.5**	**D**
SB	Left Turn	52	49	94.8%	57.6	40.5	F
	Through	309	315	102.0%	60.2	41.1	F
	Right Turn	29	31	106.2%	52.4	36.2	F
	Subtotal	**390**	**395**	**101.4%**	**59.2**	**40.5**	**F**
EB	Left Turn	20	20	98.5%	21.9	8.3	C
	Through	169	179	106.0%	25.0	6.4	C
	Right Turn	137	136	99.3%	17.0	6.1	C
	Subtotal	**326**	**335**	**102.7%**	**21.6**	**6.3**	**C**
WB	Left Turn	29	27	92.1%	84.2	44.0	F
	Through	362	357	98.7%	91.9	50.9	F
	Right Turn	46	47	101.3%	82.8	55.1	F
	Subtotal	**437**	**431**	**98.5%**	**90.3**	**50.6**	**F**
Total		**1,487**	**1,495**	**100.5%**	**52.5**	**24.2**	**F**

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Volume and Delay by Movement **AM Peak Hour**

Intersection 15 **Claus Road/SR 108** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	45	45	99.1%	24.2	4.8	C
	Through						
	Right Turn	120	117	97.8%	4.9	0.7	A
	Subtotal	**165**	**162**	**98.2%**	**10.1**	**1.8**	**B**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	337	337	99.9%	3.1	0.3	A
	Right Turn	132	126	95.1%	1.8	0.2	A
	Subtotal	**469**	**462**	**98.5%**	**2.8**	**0.2**	**A**
WB	Left Turn	173	174	100.6%	7.3	1.3	A
	Through	602	594	98.7%	3.4	0.2	A
	Right Turn						
	Subtotal	**775**	**768**	**99.1%**	**4.3**	**0.4**	**A**
Total		**1,409**	**1,392**	**98.8%**	**4.5**	**0.4**	**A**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	8	9	107.5%	26.6	6.4	C
	Through	219	219	99.8%	16.4	1.3	B
	Right Turn	96	97	100.8%	4.3	0.6	A
	Subtotal	**323**	**324**	**100.3%**	**13.1**	**1.3**	**B**
SB	Left Turn	12	11	89.2%	31.5	9.6	C
	Through	308	313	101.7%	17.0	0.9	B
	Right Turn	56	57	101.1%	5.5	0.6	A
	Subtotal	**376**	**381**	**101.2%**	**15.7**	**0.9**	**B**
EB	Left Turn	29	26	90.7%	27.2	3.9	C
	Through	117	111	94.8%	27.2	2.2	C
	Right Turn	13	14	106.2%	7.2	1.9	A
	Subtotal	**159**	**151**	**95.0%**	**25.2**	**1.3**	**C**
WB	Left Turn	101	96	95.0%	25.7	3.0	C
	Through	183	179	97.8%	22.3	2.2	C
	Right Turn	20	19	95.5%	5.5	1.2	A
	Subtotal	**304**	**294**	**96.7%**	**22.3**	**2.1**	**C**
Total		**1,162**	**1,150**	**98.9%**	**17.9**	**1.0**	**B**

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Volume and Delay by Movement **AM Peak Hour**

Intersection 17 **Crane Road/Patterson Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	31	31	99.0%	5.5	0.4	A
	Through						
	Right Turn	132	129	97.8%	3.6	0.3	A
	Subtotal	**163**	**160**	**98.0%**	**4.0**	**0.2**	**A**
EB	Left Turn	58	58	99.3%	1.7	0.4	A
	Through	98	102	104.0%	1.8	0.3	A
	Right Turn						
	Subtotal	**156**	**160**	**102.2%**	**1.8**	**0.3**	**A**
WB	Left Turn						
	Through	129	127	98.8%	2.2	0.2	A
	Right Turn	19	20	107.4%	1.1	0.4	A
	Subtotal	**148**	**148**	**99.9%**	**2.1**	**0.2**	**A**
Total		**467**	**467**	**100.0%**	**2.6**	**0.2**	**A**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	8	8	96.3%	4.5	1.1	A
	Through	13	13	96.9%	9.3	0.9	A
	Right Turn	3	3	103.3%	2.9	1.4	A
	Subtotal	**24**	**23**	**97.5%**	**6.9**	**1.0**	**A**
SB	Left Turn	2	1	50.0%	4.3	3.2	A
	Through	20	21	103.0%	9.6	1.0	A
	Right Turn	8	9	110.0%	2.9	1.0	A
	Subtotal	**30**	**30**	**101.3%**	**7.6**	**1.0**	**A**
EB	Left Turn	7	8	111.4%	3.6	1.4	A
	Through	196	203	103.6%	1.6	0.2	A
	Right Turn	3	4	116.7%	1.3	1.9	A
	Subtotal	**206**	**214**	**104.1%**	**1.6**	**0.2**	**A**
WB	Left Turn	8	7	92.5%	1.4	0.8	A
	Through	274	278	101.4%	1.1	0.1	A
	Right Turn						
	Subtotal	**282**	**285**	**101.1%**	**1.1**	**0.1**	**A**
Total		**542**	**553**	**102.1%**	**1.9**	**0.1**	**A**

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Volume and Delay by Movement **AM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	85	88	103.6%	26.6	1.5	C
	Through	49	49	100.8%	19.2	3.0	B
	Right Turn	15	17	110.0%	9.1	3.0	A
	Subtotal	**149**	**154**	**103.4%**	**22.4**	**1.3**	**C**
SB	Left Turn	104	103	98.7%	25.2	2.5	C
	Through	55	55	99.5%	19.8	2.8	B
	Right Turn	130	129	99.0%	11.8	1.6	B
	Subtotal	**289**	**286**	**99.0%**	**18.1**	**1.8**	**B**
EB	Left Turn	60	61	101.2%	38.6	4.2	D
	Through	533	529	99.3%	19.3	2.1	B
	Right Turn	36	37	103.1%	9.3	1.6	A
	Subtotal	**629**	**627**	**99.7%**	**20.6**	**2.1**	**C**
WB	Left Turn	34	35	102.9%	33.7	4.6	C
	Through	523	514	98.2%	19.2	1.4	B
	Right Turn	56	55	98.6%	8.0	0.8	A
	Subtotal	**613**	**604**	**98.5%**	**19.0**	**1.5**	**B**
Total		**1,680**	**1,671**	**99.5%**	**19.8**	**1.2**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	90	88	97.4%	47.4	6.1	D
	Through	260	258	99.2%	46.7	3.7	D
	Right Turn	163	170	104.4%	10.4	1.0	B
	Subtotal	**513**	**516**	**100.5%**	**34.9**	**3.3**	**C**
SB	Left Turn	304	301	98.9%	50.9	7.7	D
	Through	289	285	98.5%	43.1	6.3	D
	Right Turn	61	64	105.6%	35.6	8.4	D
	Subtotal	**654**	**650**	**99.4%**	**46.0**	**7.1**	**D**
EB	Left Turn	80	84	105.4%	77.3	6.8	E
	Through	353	347	98.2%	38.0	2.8	D
	Right Turn	44	47	107.3%	26.8	4.4	C
	Subtotal	**477**	**478**	**100.3%**	**43.8**	**3.2**	**D**
WB	Left Turn	123	128	104.2%	59.0	6.8	E
	Through	415	411	98.9%	44.3	5.5	D
	Right Turn	304	313	103.0%	9.7	0.7	A
	Subtotal	**842**	**852**	**101.2%**	**33.8**	**3.8**	**C**
Total		**2,486**	**2,496**	**100.4%**	**39.1**	**3.4**	**D**

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Volume and Delay by Movement **AM Peak Hour**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	253	257	101.6%	32.0	1.9	C
	Through	97	103	106.5%	22.0	2.7	C
	Right Turn	74	73	98.5%	5.9	0.9	A
	Subtotal	**424**	**433**	**102.2%**	**25.2**	**1.3**	**C**
SB	Left Turn	23	24	105.2%	36.7	5.0	D
	Through	137	137	100.2%	32.7	2.6	C
	Right Turn	80	81	100.8%	10.9	1.5	B
	Subtotal	**240**	**242**	**100.9%**	**25.9**	**2.2**	**C**
EB	Left Turn	43	42	97.2%	38.9	3.2	D
	Through	342	346	101.1%	23.4	1.8	C
	Right Turn	158	167	105.5%	13.4	1.9	B
	Subtotal	**543**	**554**	**102.1%**	**21.6**	**1.5**	**C**
WB	Left Turn	144	144	100.3%	36.0	2.6	D
	Through	510	516	101.3%	19.0	1.6	B
	Right Turn	26	26	99.6%	12.3	3.9	B
	Subtotal	**680**	**687**	**101.0%**	**22.3**	**1.7**	**C**
Total		**1,887**	**1,916**	**101.6%**	**23.2**	**1.0**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	12	13	107.5%	33.8	6.2	C
	Through	489	490	100.1%	21.2	1.7	C
	Right Turn						
	Subtotal	**501**	**503**	**100.3%**	**21.5**	**1.7**	**C**
SB	Left Turn	79	82	103.2%	34.3	3.8	C
	Through	611	616	100.8%	15.6	1.8	B
	Right Turn	91	88	96.7%	6.4	1.5	A
	Subtotal	**781**	**785**	**100.5%**	**16.5**	**1.6**	**B**
EB	Left Turn	84	83	98.9%	30.3	2.5	C
	Through	19	19	102.1%	32.4	5.5	C
	Right Turn	16	16	97.5%	4.4	1.0	A
	Subtotal	**119**	**118**	**99.2%**	**27.3**	**2.5**	**C**
WB	Left Turn	3	2	73.3%	26.8	14.4	C
	Through	45	45	100.9%	31.1	3.5	C
	Right Turn	134	132	98.2%	5.8	0.6	A
	Subtotal	**182**	**179**	**98.5%**	**12.5**	**1.9**	**B**
Total		**1,583**	**1,585**	**100.1%**	**18.5**	**1.5**	**B**

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Volume and Delay by Movement **AM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	40	39	98.3%	29.2	3.7	C
	Through	303	310	102.4%	11.3	0.8	B
	Right Turn	16	16	100.0%	4.0	1.7	A
	Subtotal	**359**	**366**	**101.9%**	**12.9**	**0.8**	**B**
SB	Left Turn						
	Through	448	451	100.6%	16.8	1.3	B
	Right Turn	136	137	100.4%	4.5	0.5	A
	Subtotal	**584**	**587**	**100.6%**	**14.0**	**1.0**	**B**
EB	Left Turn	150	149	99.3%	24.0	1.5	C
	Through	15	14	94.7%	20.3	6.2	C
	Right Turn	38	38	98.9%	3.9	0.8	A
	Subtotal	**203**	**201**	**98.9%**	**19.9**	**1.1**	**B**
WB	Left Turn	16	14	89.4%	29.0	6.3	C
	Through	109	107	98.5%	30.6	1.6	C
	Right Turn	2	3	125.0%	11.5	10.2	B
	Subtotal	**127**	**124**	**97.8%**	**30.0**	**1.8**	**C**
Total		**1,273**	**1,278**	**100.4%**	**16.2**	**0.6**	**B**

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Queue Length **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **All-way Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,451	73	144	191	0	0
	Through	2,451	73	144	191	0	0
	Right Turn	2,451	73	144	191	0	0
SB	Left Turn	2,396	62	117	152	0	0
	Through	2,396	62	117	152	0	0
	Right Turn	2,396	62	117	152	0	0
EB	Left Turn	80	44	**129**	**140**	0	0
	Through	3,302	224	463	574	54	0
	Right Turn	50	**66**	**95**	**75**	4	0
WB	Left Turn	70	**97**	**181**	**130**	1	0
	Through	1,190	889	**1607**	**1298**	89	41
	Right Turn	50	42	**100**	**75**	1	0

Intersection 2 **Tully Road/Kiernan Avenue** **All-way Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	3,718	67	114	155	0	0
	Through	3,718	67	114	155	0	0
	Right Turn	3,718	67	114	155	0	0
SB	Left Turn	3,994	55	95	118	0	0
	Through	3,994	55	95	118	0	0
	Right Turn	3,994	55	95	118	0	0
EB	Left Turn	150	21	68	123	0	0
	Through	1,320	98	170	218	4	0
	Right Turn	1,320	98	170	218	4	0
WB	Left Turn	125	107	**215**	**185**	0	0
	Through	3,643	269	553	649	41	0
	Right Turn	3,643	269	553	649	41	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	14	43	61	0	0
	Through	464	55	101	127	0	0
	Right Turn	464	52	100	116	0	0
SB	Left Turn	290	49	101	127	0	0
	Through	5,159	136	231	278	0	0
	Right Turn	800	99	194	249	0	0
EB	Left Turn	250	70	128	158	0	0
	Through	5,459	49	101	130	0	0
	Right Turn	5,459	49	101	130	0	0
WB	Left Turn	90	19	65	**115**	0	0
	Through	491	180	319	396	27	0
	Right Turn	160	68	**170**	**220**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **Existing**
Queue Length | **AM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	47	94	118	0	0
	Right Turn						
SB	Left Turn						
	Through	464	123	254	292	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	88	155	190	0	0
	Through						
	Right Turn	672	88	155	190	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	23	52	67	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	58	122	146	0	0
	Right Turn	491	58	122	146	0	0
WB	Left Turn	530	75	134	173	0	0
	Through						
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	260	63	124	156	0	0
	Through	1,976	83	150	175	0	0
	Right Turn	540	20	48	63	0	0
SB	Left Turn	200	29	71	91	0	0
	Through	439	134	219	254	2	0
	Right Turn	300	68	121	147	0	0
EB	Left Turn	225	66	130	167	0	0
	Through	1,460	71	137	169	0	0
	Right Turn	1,460	22	52	71	0	0
WB	Left Turn	200	139	**245**	**259**	2	0
	Through	2,548	230	371	450	12	0
	Right Turn	2,548	230	371	450	12	0

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Queue Length **AM Peak Hour**
Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	89	157	205	0	0
	Through	3,865	155	265	307	37	0
	Right Turn	50	27	**90**	**110**	0	0
SB	Left Turn	200	51	111	180	0	0
	Through	1,768	161	258	320	32	0
	Right Turn	50	**50**	**114**	**110**	2	0
EB	Left Turn	350	68	123	146	0	0
	Through	4,938	112	194	227	0	0
	Right Turn	4,938	43	82	99	0	0
WB	Left Turn	300	28	56	67	0	0
	Through	926	127	196	233	0	0
	Right Turn	350	86	183	227	0	0

Intersection 8 **Coffee Road/Claribel Road** **All-way Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,547	78	145	196	35	0
	Through	1,547	78	145	196	35	0
	Right Turn	20	**42**	**62**	**67**	10	0
SB	Left Turn	1,995	124	230	319	48	0
	Through	1,995	124	230	319	48	0
	Right Turn	20	**47**	**60**	**67**	24	0
EB	Left Turn	2,563	84	152	196	0	0
	Through	2,563	84	152	196	0	0
	Right Turn	2,563	84	152	196	0	0
WB	Left Turn	2,625	854	1567	1457	0	0
	Through	2,625	854	1567	1457	0	0
	Right Turn	2,625	854	1567	1457	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,232	88	182	236	0	0
	Through	1,232	88	182	236	0	0
	Right Turn	1,232	88	182	236	0	0
SB	Left Turn	1,231	390	741	758	0	1
	Through	1,231	390	741	758	0	1
	Right Turn	1,231	390	741	758	0	1
EB	Left Turn	1,369	67	128	168	0	0
	Through	1,369	67	128	168	0	0
	Right Turn	1,369	67	128	168	0	0
WB	Left Turn	1,645	557	1116	1146	0	0
	Through	1,645	557	1116	1146	0	0
	Right Turn	1,645	557	1116	1146	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **Existing**
Queue Length | **AM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	104	184	**218**	1	0
	Through	2,570	47	115	167	0	0
	Right Turn	2,570	125	234	283	0	0
SB	Left Turn	150	50	105	130	0	0
	Through	2,170	96	195	275	23	0
	Right Turn	75	57	**122**	**132**	1	0
EB	Left Turn	525	36	86	112	0	0
	Through	2,722	69	124	156	0	0
	Right Turn	2,722	62	123	159	0	0
WB	Left Turn	625	113	175	205	0	0
	Through	3,225	74	141	171	0	0
	Right Turn	675	94	179	208	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	170	32	92	**171**	0	0
	Through	1,720	125	235	309	4	0
	Right Turn	240	37	88	152	0	0
SB	Left Turn	315	40	140	315	0	0
	Through	4,006	278	479	600	8	0
	Right Turn	4,006	45	88	114	0	0
EB	Left Turn	225	72	143	194	0	0
	Through	2,526	118	218	268	10	0
	Right Turn	125	29	97	**176**	0	0
WB	Left Turn	310	166	288	**345**	1	0
	Through	1,890	197	351	450	2	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Side Street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	500	133	252	330	0	0
	Through	2,070	2	15	44	0	0
	Right Turn						
SB	Left Turn						
	Through	2,187	14	40	58	0	0
	Right Turn	2,187	14	40	58	0	0
EB	Left Turn	200	9	31	46	0	0
	Through						
	Right Turn	1,406	46	79	106	0	0
WB	Left Turn						
	Through						
	Right Turn						

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Queue Length **AM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	39	111	188	0	0
	Through	1,227	160	281	340	3	0
	Right Turn	1,227	160	281	340	3	0
SB	Left Turn	175	136	**246**	**234**	5	0
	Through	1,687	222	448	572	14	0
	Right Turn	1,687	222	448	572	14	0
EB	Left Turn	775	90	164	188	0	0
	Through	3,237	142	255	308	0	0
	Right Turn	3,237	142	255	308	0	0
WB	Left Turn	75	14	54	**105**	0	0
	Through	3,310	344	599	778	46	0
	Right Turn	150	110	**248**	**210**	0	0

Intersection 14 **Roselle Road/Claribel Road** **All-way Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,319	125	237	306	0	0
	Through	2,319	125	237	306	0	0
	Right Turn	2,319	125	237	306	0	0
SB	Left Turn	2,484	251	479	545	0	0
	Through	2,484	251	479	545	0	0
	Right Turn	2,484	251	479	545	0	0
EB	Left Turn	2,415	110	198	254	0	0
	Through	2,415	110	198	254	0	0
	Right Turn	2,415	110	198	254	0	0
WB	Left Turn	2,618	378	716	747	0	0
	Through	2,618	378	716	747	0	0
	Right Turn	2,618	378	716	747	0	0

Intersection 15 **Claus Road/SR 108** **Side Street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,587	31	64	81	0	0
	Through						
	Right Turn	150	37	61	81	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	1,820	4	21	44	0	0
	Right Turn	1,820	4	21	44	0	0
WB	Left Turn	125	47	90	118	0	0
	Through	1,989	1	12	34	0	0
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **Existing**
Queue Length | **AM Peak Hour**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	8	33	54	0	0
	Through	2,156	74	145	191	1	0
	Right Turn	150	26	57	73	0	0
SB	Left Turn	250	10	35	57	0	0
	Through	2,402	110	200	244	3	0
	Right Turn	150	24	68	105	0	0
EB	Left Turn	150	21	54	95	0	0
	Through	2,148	58	118	164	7	0
	Right Turn	75	6	23	41	0	0
WB	Left Turn	150	61	120	**162**	0	0
	Through	2,758	81	155	189	9	0
	Right Turn	75	10	43	**99**	0	0

Intersection 17 **Crane Road/Patterson Road** **Side Street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn	1,916	42	67	79	0	0
	Through						
	Right Turn	1,916	42	67	79	0	0
EB	Left Turn	2,004	9	35	55	0	0
	Through	2,004	9	35	55	0	0
	Right Turn						
WB	Left Turn						
	Through						
	Right Turn						

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,498	17	46	57	2	0
	Through	1,498	17	46	57	2	0
	Right Turn	20	3	18	**31**	0	0
SB	Left Turn	1,216	18	48	58	2	0
	Through	1,216	18	48	58	2	0
	Right Turn	20	9	**35**	**55**	1	0
EB	Left Turn	2,720	2	12	31	0	0
	Through	2,720	2	12	31	0	0
	Right Turn	2,720	2	12	31	0	0
WB	Left Turn	2,487	1	8	18	0	0
	Through	2,487	1	8	18	0	0
	Right Turn	2,487	1	8	18	0	0

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Queue Length **AM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	55	100	127	0	0
	Through	1,261	33	68	84	0	0
	Right Turn	1,261	33	68	84	0	0
SB	Left Turn	100	55	**101**	**122**	2	0
	Through	1,636	31	80	126	0	0
	Right Turn	75	42	**82**	**106**	2	0
EB	Left Turn	250	47	105	161	0	0
	Through	4,913	184	331	405	5	0
	Right Turn	200	19	84	172	0	0
WB	Left Turn	250	31	85	145	0	0
	Through	2,604	222	393	491	8	0
	Right Turn	200	37	145	**259**	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,934	157	258	329	0	0
	Through						
	Right Turn						
SB	Left Turn	5,862	296	451	509	0	0
	Through	5,862	296	451	509	0	0
	Right Turn	5,862	218	365	423	0	0
EB	Left Turn	50	**85**	**131**	**110**	47	0
	Through	2,750	193	359	468	39	0
	Right Turn	200	165	**264**	**260**	4	0
WB	Left Turn	300	157	**328**	**360**	0	0
	Through						
	Right Turn	2,507	328	579	670	13	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	94	143	166	0	0
	Through	1,873	54	107	141	13	0
	Right Turn	50	32	**73**	**102**	1	0
SB	Left Turn	100	22	57	89	0	0
	Through	2,914	84	150	204	9	0
	Right Turn	100	46	**102**	**156**	0	0
EB	Left Turn	250	31	66	84	0	0
	Through	1,972	104	179	213	0	0
	Right Turn	1,972	114	198	233	0	0
WB	Left Turn	200	86	158	**204**	0	0
	Through	2,690	101	188	236	1	0
	Right Turn	2,690	119	213	256	0	0

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Queue Length **AM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	13	39	63	0	0
	Through	1,498	139	228	259	0	0
	Right Turn	300	87	197	237	0	0
SB	Left Turn	400	61	116	149	0	0
	Through	1,981	120	207	248	0	0
	Right Turn	300	81	179	225	0	0
EB	Left Turn	225	66	127	161	0	0
	Through	5,561	20	57	76	0	0
	Right Turn	225	13	45	65	0	0
WB	Left Turn	225	3	18	36	0	0
	Through	2,237	37	87	115	0	0
	Right Turn	225	49	91	119	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	32	75	102	0	0
	Through	1,326	65	120	144	0	0
	Right Turn	1,326	35	88	132	0	0
SB	Left Turn	350	1	7	18	0	0
	Through	1,404	116	190	222	0	0
	Right Turn	350	44	79	90	0	0
EB	Left Turn	225	77	140	172	0	0
	Through	1,997	8	29	45	0	0
	Right Turn	225	13	40	66	0	0
WB	Left Turn	175	15	43	56	0	0
	Through	2,609	69	123	156	0	0
	Right Turn	2,609	69	123	156	0	0

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Volume and Delay by Movement **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **All-way Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	34	30	88.8%	7.0	1.6	A
	Through	85	86	101.4%	11.4	0.5	B
	Right Turn	25	25	99.6%	5.4	1.0	A
	Subtotal	**144**	**141**	**98.1%**	**9.4**	**0.6**	**A**
SB	Left Turn	4	4	100.0%	7.1	2.3	A
	Through	69	68	98.6%	10.8	0.4	B
	Right Turn	9	10	108.9%	3.9	1.2	A
	Subtotal	**82**	**82**	**99.8%**	**9.8**	**0.5**	**A**
EB	Left Turn	32	31	97.5%	17.7	1.5	C
	Through	541	543	100.3%	27.9	3.6	D
	Right Turn	76	76	99.6%	18.7	3.5	C
	Subtotal	**649**	**650**	**100.1%**	**26.3**	**3.4**	**D**
WB	Left Turn	26	24	93.1%	16.8	1.2	C
	Through	463	449	97.0%	23.2	1.2	C
	Right Turn	8	10	120.0%	14.2	1.6	B
	Subtotal	**497**	**483**	**97.1%**	**22.7**	**1.2**	**C**
Total		**1,372**	**1,355**	**98.8%**	**22.3**	**1.6**	**C**

Intersection 2 **Tully Road/Kiernan Avenue** **All-way Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	55	52	94.4%	16.3	3.0	C
	Through	125	130	103.6%	20.3	2.1	C
	Right Turn	97	104	107.5%	13.6	1.7	B
	Subtotal	**277**	**286**	**103.1%**	**17.1**	**1.9**	**C**
SB	Left Turn	16	17	105.0%	10.6	2.3	B
	Through	103	101	97.8%	14.9	1.4	B
	Right Turn	14	15	107.9%	8.3	3.3	A
	Subtotal	**133**	**133**	**99.7%**	**13.5**	**1.6**	**B**
EB	Left Turn	39	40	102.1%	85.0	37.4	F
	Through	468	453	96.8%	116.0	39.0	F
	Right Turn	63	58	92.4%	103.6	35.8	F
	Subtotal	**570**	**551**	**96.7%**	**112.3**	**38.3**	**F**
WB	Left Turn	128	131	102.4%	23.5	5.9	C
	Through	428	417	97.4%	35.8	8.5	E
	Right Turn	22	23	103.2%	26.9	11.5	D
	Subtotal	**578**	**571**	**98.7%**	**32.6**	**8.0**	**D**
Total		**1,558**	**1,540**	**98.8%**	**56.6**	**14.5**	**F**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	26	24	93.1%	46.1	4.7	D
	Through	341	350	102.6%	30.3	2.4	C
	Right Turn	10	12	117.0%	22.0	3.9	C
	Subtotal	**377**	**386**	**102.3%**	**31.1**	**2.3**	**C**
SB	Left Turn	144	144	99.9%	42.4	2.1	D
	Through	316	314	99.4%	25.4	0.9	C
	Right Turn	131	135	103.3%	10.8	1.4	B
	Subtotal	**591**	**593**	**100.4%**	**26.2**	**1.2**	**C**
EB	Left Turn	171	165	96.2%	45.9	4.1	D
	Through	234	238	101.5%	23.6	3.3	C
	Right Turn	12	14	115.0%	13.7	6.3	B
	Subtotal	**417**	**416**	**99.7%**	**32.1**	**3.3**	**C**
WB	Left Turn	10	10	103.0%	51.0	16.3	D
	Through	236	233	98.9%	32.3	1.6	C
	Right Turn	96	94	98.2%	7.1	0.8	A
	Subtotal	**342**	**338**	**98.8%**	**25.8**	**1.7**	**C**
Total		**1,727**	**1,733**	**100.3%**	**28.6**	**1.2**	**C**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	377	384	101.9%	8.2	0.5	A
	Right Turn	326	320	98.0%	1.4	0.1	A
	Subtotal	**703**	**704**	**100.1%**	**5.1**	**0.4**	**A**
SB	Left Turn						
	Through	338	339	100.4%	11.7	0.5	B
	Right Turn						
	Subtotal	**338**	**339**	**100.4%**	**11.7**	**0.5**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	117	114	97.3%	11.7	1.7	B
	Through						
	Right Turn						
	Subtotal	**117**	**114**	**97.3%**	**11.7**	**1.7**	**B**
Total		**1,158**	**1,157**	**99.9%**	**7.7**	**0.3**	**A**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	326	320	98.2%	7.0	0.8	A
	Subtotal	**326**	**320**	**98.2%**	**7.0**	**0.8**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	388	395	101.8%	14.6	1.7	B
	Right Turn						
	Subtotal	**388**	**395**	**101.8%**	**14.6**	**1.7**	**B**
WB	Left Turn	117	114	97.4%	20.0	1.5	B
	Through	342	336	98.3%	2.9	0.3	A
	Right Turn						
	Subtotal	**459**	**450**	**98.1%**	**7.2**	**0.5**	**A**
Total		**1,173**	**1,165**	**99.3%**	**9.7**	**0.8**	**A**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	125	123	98.6%	49.0	3.1	D
	Through	598	599	100.2%	29.3	1.2	C
	Right Turn	183	181	98.6%	8.7	1.2	A
	Subtotal	**906**	**903**	**99.6%**	**27.8**	**1.2**	**C**
SB	Left Turn	23	23	101.3%	55.5	9.3	E
	Through	408	402	98.4%	35.8	1.7	D
	Right Turn	137	137	100.1%	9.1	1.2	A
	Subtotal	**568**	**562**	**98.9%**	**30.1**	**1.7**	**C**
EB	Left Turn	247	238	96.2%	48.5	2.5	D
	Through	303	306	101.0%	33.2	2.7	C
	Right Turn	188	190	101.1%	5.7	1.0	A
	Subtotal	**738**	**733**	**99.4%**	**31.0**	**1.7**	**C**
WB	Left Turn	123	121	98.2%	50.4	3.3	D
	Through	288	285	99.0%	42.1	2.9	D
	Right Turn	43	44	101.6%	31.2	4.6	C
	Subtotal	**454**	**450**	**99.1%**	**43.3**	**1.9**	**D**
Total		**2,666**	**2,648**	**99.3%**	**31.8**	**1.0**	**C**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	250	248	99.2%	59.2	3.0	E
	Through	708	714	100.8%	40.0	1.3	D
	Right Turn	95	91	95.6%	23.6	1.2	C
	Subtotal	**1,053**	**1,052**	**99.9%**	**43.1**	**0.8**	**D**
SB	Left Turn	329	325	98.8%	44.8	3.3	D
	Through	832	840	101.0%	33.1	1.9	C
	Right Turn	134	141	105.4%	17.3	1.9	B
	Subtotal	**1,295**	**1,306**	**100.9%**	**34.3**	**1.8**	**C**
EB	Left Turn	177	172	97.3%	48.1	2.1	D
	Through	618	619	100.1%	42.8	2.3	D
	Right Turn	236	240	101.9%	15.4	1.3	B
	Subtotal	**1,031**	**1,032**	**100.0%**	**37.3**	**1.3**	**D**
WB	Left Turn	67	70	104.6%	54.2	6.1	D
	Through	441	434	98.4%	46.8	2.3	D
	Right Turn	122	127	104.3%	5.6	1.5	A
	Subtotal	**630**	**631**	**100.2%**	**39.3**	**1.5**	**D**
Total		**4,009**	**4,021**	**100.3%**	**38.2**	**1.0**	**D**

Intersection 8 **Coffee Road/Claribel Road** **All-way Stop**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	70	68	96.7%	35.9	11.5	E
	Through	249	253	101.4%	39.9	14.1	E
	Right Turn	204	204	99.9%	31.5	13.9	D
	Subtotal	**523**	**524**	**100.2%**	**36.1**	**13.6**	**E**
SB	Left Turn	8	8	97.5%	14.7	3.4	B
	Through	146	151	103.2%	16.8	1.3	C
	Right Turn	64	61	95.9%	8.7	0.6	A
	Subtotal	**218**	**220**	**100.9%**	**14.5**	**1.1**	**B**
EB	Left Turn	58	50	86.2%	209.2	81.6	F
	Through	376	347	92.4%	215.2	85.2	F
	Right Turn	56	52	93.4%	204.0	90.9	F
	Subtotal	**490**	**450**	**91.8%**	**213.4**	**85.0**	**F**
WB	Left Turn	72	74	102.2%	48.1	8.8	E
	Through	320	318	99.3%	52.1	8.6	F
	Right Turn	3	4	116.7%	41.6	13.7	E
	Subtotal	**395**	**395**	**100.0%**	**51.3**	**8.5**	**F**
Total		**1,626**	**1,588**	**97.7%**	**87.0**	**27.2**	**F**

Intersection 9 **Coffee Road/Claratina Avenue** **Roundabout**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	284	241	84.9%	234.4	39.2	F
	Through	347	299	86.1%	238.9	39.8	F
	Right Turn	15	12	80.0%	251.1	40.3	F
	Subtotal	**646**	**552**	**85.4%**	**237.2**	**39.3**	**F**
SB	Left Turn	16	16	99.4%	7.0	2.4	A
	Through	186	187	100.5%	10.3	1.0	B
	Right Turn	84	76	90.0%	6.8	1.6	A
	Subtotal	**286**	**278**	**97.3%**	**9.1**	**1.2**	**A**
EB	Left Turn	207	167	80.5%	198.2	6.2	F
	Through	408	336	82.4%	203.4	8.2	F
	Right Turn	354	298	84.2%	198.9	8.5	F
	Subtotal	**969**	**801**	**82.6%**	**200.6**	**7.7**	**F**
WB	Left Turn	19	17	91.6%	10.8	2.5	B
	Through	193	191	98.8%	15.9	1.8	C
	Right Turn	12	15	120.8%	12.4	2.7	B
	Subtotal	**224**	**223**	**99.4%**	**15.3**	**1.8**	**C**
Total		**2,125**	**1,854**	**87.2%**	**160.4**	**10.8**	**F**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	103	101	97.7%	75.8	8.0	E
	Through	82	85	103.4%	61.2	8.0	E
	Right Turn	241	230	95.4%	170.4	109.6	F
	Subtotal	**426**	**415**	**97.5%**	**125.1**	**62.1**	**F**
SB	Left Turn	40	42	103.8%	76.4	9.7	E
	Through	69	67	97.2%	65.6	8.8	E
	Right Turn	46	49	105.7%	7.6	2.1	A
	Subtotal	**155**	**157**	**101.4%**	**50.4**	**6.0**	**D**
EB	Left Turn	83	81	97.8%	71.1	5.4	E
	Through	568	570	100.3%	22.0	2.0	C
	Right Turn	110	109	99.2%	17.2	1.9	B
	Subtotal	**761**	**760**	**99.9%**	**26.6**	**1.7**	**C**
WB	Left Turn	366	363	99.1%	71.8	8.9	E
	Through	357	355	99.3%	16.3	1.0	B
	Right Turn	22	22	98.2%	11.7	4.0	B
	Subtotal	**745**	**739**	**99.2%**	**43.5**	**4.4**	**D**
Total		**2,087**	**2,072**	**99.3%**	**54.0**	**13.9**	**D**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	45	45	99.8%	68.6	6.6	E
	Through	436	431	98.8%	40.9	5.9	D
	Right Turn	284	292	102.8%	19.7	4.9	B
	Subtotal	**765**	**768**	**100.3%**	**34.4**	**5.1**	**C**
SB	Left Turn	28	26	94.3%	58.5	5.6	E
	Through	357	352	98.7%	38.2	3.1	D
	Right Turn	135	140	103.5%	7.5	1.3	A
	Subtotal	**520**	**519**	**99.7%**	**31.0**	**2.2**	**C**
EB	Left Turn	215	200	93.1%	56.0	3.9	E
	Through	362	363	100.3%	47.0	2.1	D
	Right Turn	58	57	98.1%	19.1	2.6	B
	Subtotal	**635**	**620**	**97.7%**	**47.4**	**2.3**	**D**
WB	Left Turn	231	233	101.0%	53.5	2.5	D
	Through	255	252	98.7%	39.2	4.1	D
	Right Turn	39	38	96.4%	2.3	0.2	A
	Subtotal	**525**	**523**	**99.6%**	**42.9**	**2.6**	**D**
Total		**2,445**	**2,429**	**99.3%**	**38.8**	**2.0**	**D**

Intersection 12 **Oakdale Road/Claratina Avenue** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	179	176	98.5%	10.3	1.1	B
	Through	726	729	100.4%	1.9	0.1	A
	Right Turn						
	Subtotal	**905**	**905**	**100.0%**	**3.5**	**0.2**	**A**
SB	Left Turn						
	Through	562	562	99.9%	6.5	0.3	A
	Right Turn	58	55	95.0%	3.7	0.5	A
	Subtotal	**620**	**617**	**99.5%**	**6.2**	**0.3**	**A**
EB	Left Turn	53	54	100.9%	51.9	12.0	F
	Through						
	Right Turn	396	398	100.5%	32.0	9.1	D
	Subtotal	**449**	**451**	**100.5%**	**34.4**	**8.4**	**D**
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,974**	**1,973**	**100.0%**	**11.5**	**2.2**	**B**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	48	46	95.0%	44.4	5.4	D
	Through	162	160	99.0%	49.9	4.9	D
	Right Turn	21	21	101.4%	34.9	8.6	C
	Subtotal	**231**	**227**	**98.4%**	**47.4**	**4.1**	**D**
SB	Left Turn	201	202	100.7%	127.7	54.2	F
	Through	175	178	101.8%	137.4	57.1	F
	Right Turn	156	155	99.6%	122.8	53.2	F
	Subtotal	**532**	**536**	**100.7%**	**129.5**	**54.8**	**F**
EB	Left Turn	234	239	102.3%	61.2	8.6	E
	Through	532	541	101.6%	36.5	2.9	D
	Right Turn	17	18	105.9%	30.2	7.6	C
	Subtotal	**783**	**798**	**101.9%**	**43.7**	**2.9**	**D**
WB	Left Turn	23	23	98.3%	85.1	11.5	F
	Through	357	350	98.2%	42.2	2.2	D
	Right Turn	96	96	100.1%	15.6	1.8	B
	Subtotal	**476**	**469**	**98.6%**	**38.8**	**2.5**	**D**
Total		**2,022**	**2,030**	**100.4%**	**65.8**	**16.0**	**E**

Intersection 14 **Roselle Road/Claribel Road** **All-way Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	135	133	98.8%	111.7	55.7	F
	Through	291	297	102.1%	111.7	57.3	F
	Right Turn	21	24	113.8%	105.2	40.9	F
	Subtotal	**447**	**454**	**101.7%**	**111.5**	**56.2**	**F**
SB	Left Turn	40	35	88.0%	19.2	2.0	C
	Through	218	219	100.5%	20.3	2.0	C
	Right Turn	42	41	97.6%	15.0	2.8	B
	Subtotal	**300**	**295**	**98.4%**	**19.4**	**2.0**	**C**
EB	Left Turn	50	50	99.6%	141.5	82.5	F
	Through	315	307	97.3%	142.0	82.8	F
	Right Turn	125	120	96.3%	142.9	83.5	F
	Subtotal	**490**	**477**	**97.3%**	**142.3**	**82.9**	**F**
WB	Left Turn	30	30	100.7%	24.5	8.3	C
	Through	267	266	99.7%	26.3	7.0	D
	Right Turn	64	61	95.0%	20.9	5.5	C
	Subtotal	**361**	**357**	**99.0%**	**25.3**	**6.8**	**D**
Total		**1,598**	**1,584**	**99.1%**	**83.8**	**34.2**	**F**

Intersection 15 **Claus Road/SR 108** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	45	48	106.0%	45.7	12.6	E
	Through						
	Right Turn	172	176	102.6%	10.1	1.9	B
	Subtotal	**217**	**224**	**103.3%**	**17.5**	**3.3**	**C**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	574	566	98.6%	4.4	0.2	A
	Right Turn	136	141	103.8%	2.9	0.2	A
	Subtotal	**710**	**707**	**99.6%**	**4.1**	**0.2**	**A**
WB	Left Turn	178	180	101.2%	12.2	2.2	B
	Through	395	402	101.8%	3.1	0.1	A
	Right Turn						
	Subtotal	**573**	**582**	**101.6%**	**5.9**	**0.7**	**A**
Total		**1,500**	**1,513**	**100.9%**	**6.8**	**0.7**	**A**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	16	15	92.5%	36.1	6.9	D
	Through	300	293	97.5%	21.4	1.2	C
	Right Turn	137	139	101.5%	6.4	0.7	A
	Subtotal	**453**	**446**	**98.5%**	**17.2**	**1.1**	**B**
SB	Left Turn	18	19	106.1%	32.2	4.5	C
	Through	273	268	98.0%	19.1	1.0	B
	Right Turn	76	77	101.3%	5.1	0.7	A
	Subtotal	**367**	**364**	**99.1%**	**16.8**	**0.7**	**B**
EB	Left Turn	38	41	108.7%	34.6	5.2	C
	Through	192	204	106.0%	29.1	1.7	C
	Right Turn	18	19	107.2%	8.0	1.7	A
	Subtotal	**248**	**264**	**106.5%**	**28.3**	**1.7**	**C**
WB	Left Turn	117	113	96.7%	30.2	2.4	C
	Through	150	156	104.0%	25.2	3.0	C
	Right Turn	16	18	114.4%	7.5	2.5	A
	Subtotal	**283**	**287**	**101.6%**	**26.0**	**2.3**	**C**
Total		**1,351**	**1,362**	**100.8%**	**21.1**	**0.8**	**C**

Intersection 17 **Crane Road/Patterson Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	6	6	98.3%	7.1	1.9	A
	Through						
	Right Turn	66	63	95.9%	2.5	0.3	A
	Subtotal	**72**	**69**	**96.1%**	**2.9**	**0.4**	**A**
EB	Left Turn	172	167	97.1%	2.8	0.3	A
	Through	141	143	101.1%	4.0	0.4	A
	Right Turn						
	Subtotal	**313**	**310**	**98.9%**	**3.3**	**0.3**	**A**
WB	Left Turn						
	Through	123	123	99.6%	2.0	0.3	A
	Right Turn	15	16	107.3%	1.0	0.7	A
	Subtotal	**138**	**139**	**100.4%**	**1.9**	**0.3**	**A**
Total		**523**	**517**	**98.9%**	**2.9**	**0.3**	**A**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	3	3	86.7%	4.9	1.7	A
	Through	17	19	109.4%	9.1	0.8	A
	Right Turn	2	3	145.0%	1.8	0.9	A
	Subtotal	**22**	**24**	**109.5%**	**7.8**	**0.6**	**A**
SB	Left Turn	3	3	83.3%	4.3	1.2	A
	Through	10	11	108.0%	8.6	0.7	A
	Right Turn	7	7	94.3%	2.1	0.7	A
	Subtotal	**20**	**20**	**99.5%**	**5.8**	**0.9**	**A**
EB	Left Turn						
	Through	280	278	99.1%	1.1	0.2	A
	Right Turn	9	10	108.9%	0.7	0.4	A
	Subtotal	**289**	**287**	**99.4%**	**1.1**	**0.2**	**A**
WB	Left Turn	6	4	66.7%	2.5	2.8	A
	Through	210	210	99.9%	0.9	0.2	A
	Right Turn	7	8	111.4%	0.2	0.2	A
	Subtotal	**223**	**222**	**99.3%**	**0.9**	**0.2**	**A**
Total		**554**	**553**	**99.8%**	**1.5**	**0.2**	**A**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	81	82	101.0%	27.9	3.6	C
	Through	40	36	90.0%	22.3	3.3	C
	Right Turn	52	56	107.3%	15.2	1.8	B
	Subtotal	**173**	**174**	**100.3%**	**22.6**	**2.3**	**C**
SB	Left Turn	77	83	107.3%	27.6	2.9	C
	Through	34	33	95.6%	20.0	3.4	B
	Right Turn	88	93	105.5%	10.6	1.7	B
	Subtotal	**199**	**208**	**104.5%**	**18.9**	**1.9**	**B**
EB	Left Turn	77	72	94.0%	40.0	4.9	D
	Through	712	708	99.5%	19.6	1.0	B
	Right Turn	30	30	100.3%	10.7	1.2	B
	Subtotal	**819**	**811**	**99.0%**	**21.0**	**1.3**	**C**
WB	Left Turn	16	14	90.0%	36.7	5.4	D
	Through	562	563	100.1%	19.0	1.6	B
	Right Turn	57	60	105.1%	8.4	0.8	A
	Subtotal	**635**	**637**	**100.3%**	**18.4**	**1.4**	**B**
Total		**1,826**	**1,829**	**100.2%**	**20.0**	**1.1**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	91	84	91.9%	46.0	2.4	D
	Through	305	313	102.5%	48.7	2.6	D
	Right Turn	183	180	98.3%	12.5	1.0	B
	Subtotal	**579**	**576**	**99.5%**	**37.0**	**1.9**	**D**
SB	Left Turn	340	341	100.2%	56.6	5.6	E
	Through	327	344	105.2%	47.5	4.2	D
	Right Turn	59	58	98.6%	40.3	5.8	D
	Subtotal	**726**	**743**	**102.3%**	**51.1**	**4.3**	**D**
EB	Left Turn	89	88	98.7%	94.3	17.8	F
	Through	536	532	99.2%	52.9	15.3	D
	Right Turn	44	50	113.2%	48.0	17.0	D
	Subtotal	**669**	**669**	**100.0%**	**58.0**	**16.0**	**E**
WB	Left Turn	128	125	97.8%	56.1	2.4	E
	Through	382	377	98.7%	38.6	2.4	D
	Right Turn	379	366	96.6%	11.0	0.6	B
	Subtotal	**889**	**868**	**97.7%**	**29.4**	**0.9**	**C**
Total		**2,863**	**2,857**	**99.8%**	**43.3**	**4.9**	**D**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	158	155	98.0%	35.8	2.6	D
	Through	158	158	99.8%	27.7	1.7	C
	Right Turn	156	158	101.0%	9.0	0.9	A
	Subtotal	**472**	**470**	**99.6%**	**24.1**	**1.4**	**C**
SB	Left Turn	37	36	98.4%	43.3	5.0	D
	Through	113	108	95.8%	33.1	2.8	C
	Right Turn	86	84	97.1%	9.2	0.8	A
	Subtotal	**236**	**228**	**96.7%**	**26.0**	**2.3**	**C**
EB	Left Turn	92	94	102.0%	39.3	4.1	D
	Through	602	608	101.0%	21.5	1.5	C
	Right Turn	170	170	99.8%	15.4	2.1	B
	Subtotal	**864**	**872**	**100.9%**	**22.2**	**1.7**	**C**
WB	Left Turn	104	104	100.2%	41.3	2.7	D
	Through	592	602	101.7%	20.9	1.2	C
	Right Turn	37	39	105.4%	14.6	1.5	B
	Subtotal	**733**	**745**	**101.7%**	**23.4**	**1.3**	**C**
Total		**2,305**	**2,315**	**100.4%**	**23.4**	**1.3**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	18	17	92.8%	40.8	7.1	D
	Through	619	615	99.4%	24.1	1.7	C
	Right Turn	2	3	130.0%	6.0	2.1	A
	Subtotal	**639**	**635**	**99.3%**	**24.5**	**1.8**	**C**
SB	Left Turn	133	133	100.0%	34.3	2.9	C
	Through	474	469	99.0%	13.7	1.1	B
	Right Turn	102	103	100.9%	4.8	0.6	A
	Subtotal	**709**	**705**	**99.5%**	**16.3**	**1.5**	**B**
EB	Left Turn	111	109	98.3%	34.8	3.0	C
	Through	35	34	96.6%	35.5	5.1	D
	Right Turn	14	16	111.4%	4.3	1.0	A
	Subtotal	**160**	**159**	**99.1%**	**31.9**	**2.5**	**C**
WB	Left Turn						
	Through	20	21	105.5%	38.0	5.7	D
	Right Turn	103	107	104.1%	5.9	0.7	A
	Subtotal	**123**	**128**	**104.3%**	**11.2**	**1.2**	**B**
Total		**1,631**	**1,627**	**99.7%**	**20.6**	**1.3**	**C**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	35	34	95.7%	23.6	2.7	C
	Through	480	464	96.8%	9.3	1.2	A
	Right Turn	21	21	101.0%	3.3	1.0	A
	Subtotal	**536**	**519**	**96.8%**	**9.9**	**1.1**	**A**
SB	Left Turn	2	2	75.0%	25.5	19.3	C
	Through	343	344	100.1%	11.6	0.8	B
	Right Turn	155	158	101.7%	3.4	0.3	A
	Subtotal	**500**	**503**	**100.5%**	**9.1**	**0.6**	**A**
EB	Left Turn	126	126	100.1%	19.4	2.2	B
	Through	87	89	102.1%	15.7	1.2	B
	Right Turn	61	60	97.5%	3.6	0.5	A
	Subtotal	**274**	**274**	**100.1%**	**14.8**	**1.2**	**B**
WB	Left Turn	12	10	85.8%	27.6	4.4	C
	Through	42	44	103.8%	25.9	2.9	C
	Right Turn	5	6	120.0%	7.1	2.1	A
	Subtotal	**59**	**60**	**101.5%**	**24.3**	**2.4**	**C**
Total		**1,369**	**1,356**	**99.1%**	**11.2**	**0.7**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **Existing**
Queue Length | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **All-way Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,454	40	74	97	0	0
	Through	2,454	40	74	97	0	0
	Right Turn	2,454	40	74	97	0	0
SB	Left Turn	2,396	30	57	73	0	0
	Through	2,396	30	57	73	0	0
	Right Turn	2,396	30	57	73	0	0
EB	Left Turn	80	40	**117**	**139**	0	0
	Through	3,301	169	335	429	46	0
	Right Turn	50	**62**	**104**	**80**	2	0
WB	Left Turn	70	22	59	**83**	0	0
	Through	2,566	86	133	161	25	0
	Right Turn	50	12	49	**79**	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **All-way Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	3,718	90	153	185	0	0
	Through	3,718	90	153	185	0	0
	Right Turn	3,718	90	153	185	0	0
SB	Left Turn	3,994	48	86	118	0	0
	Through	3,994	48	86	118	0	0
	Right Turn	3,994	48	86	118	0	0
EB	Left Turn	150	106	**253**	**210**	0	0
	Through	2,566	527	1071	1139	68	0
	Right Turn	2,566	527	1071	1139	68	0
WB	Left Turn	125	90	**188**	**185**	0	0
	Through	3,643	175	346	455	23	0
	Right Turn	3,643	175	346	455	23	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	24	65	94	0	0
	Through	464	105	175	208	1	0
	Right Turn	464	97	159	193	0	0
SB	Left Turn	290	101	176	209	0	0
	Through	5,159	103	178	203	0	0
	Right Turn	800	68	139	187	0	0
EB	Left Turn	250	123	206	230	0	0
	Through	5,459	105	185	220	0	0
	Right Turn	5,459	105	185	220	0	0
WB	Left Turn	90	19	70	**123**	0	0
	Through	491	148	253	331	24	0
	Right Turn	160	50	130	**219**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **Existing**
Queue Length | **PM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	79	146	184	0	0
	Right Turn						
SB	Left Turn						
	Through	464	79	173	212	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	50	103	127	0	0
	Through						
	Right Turn	672	50	103	127	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	63	116	146	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	129	228	273	0	0
	Right Turn	491	129	228	273	0	0
WB	Left Turn	530	59	110	148	0	0
	Through						
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	260	102	183	226	0	0
	Through	1,976	176	262	304	1	0
	Right Turn	540	52	108	153	0	0
SB	Left Turn	200	26	70	100	0	0
	Through	439	127	201	232	1	0
	Right Turn	300	55	101	131	0	0
EB	Left Turn	225	173	**274**	**283**	4	0
	Through	1,460	169	296	372	2	0
	Right Turn	1,460	40	81	105	0	0
WB	Left Turn	200	108	**206**	**253**	0	0
	Through	2,548	198	324	392	10	0
	Right Turn	2,548	198	324	392	10	0

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Queue Length **PM Peak Hour**
Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	144	**255**	**285**	0	0
	Through	3,865	260	391	454	52	0
	Right Turn	50	**54**	**129**	**110**	2	0
SB	Left Turn	200	178	**290**	**260**	2	0
	Through	1,774	284	447	543	45	0
	Right Turn	50	**62**	**133**	**110**	2	0
EB	Left Turn	350	75	125	144	0	0
	Through	4,940	206	299	327	0	0
	Right Turn	4,940	85	152	183	0	0
WB	Left Turn	300	40	81	116	0	0
	Through	926	117	176	203	0	0
	Right Turn	350	37	106	159	0	0

Intersection 8 **Coffee Road/Claribel Road** **All-way Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,547	209	401	489	59	0
	Through	1,547	209	401	489	59	0
	Right Turn	20	**48**	**59**	**67**	32	0
SB	Left Turn	1,995	66	109	145	30	0
	Through	1,995	66	109	145	30	0
	Right Turn	20	**37**	**61**	**67**	9	0
EB	Left Turn	2,563	878	1485	1462	0	0
	Through	2,563	878	1485	1462	0	0
	Right Turn	2,563	878	1485	1462	0	0
WB	Left Turn	2,625	222	387	436	0	0
	Through	2,625	222	387	436	0	0
	Right Turn	2,625	222	387	436	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,232	1092	**1462**	**1284**	0	53
	Through	1,232	1092	**1462**	**1284**	0	53
	Right Turn	1,232	1092	**1462**	**1284**	0	53
SB	Left Turn	1,231	60	117	165	0	0
	Through	1,231	60	117	165	0	0
	Right Turn	1,231	60	117	165	0	0
EB	Left Turn	1,369	1364	**1505**	**1421**	0	66
	Through	1,369	1364	**1505**	**1421**	0	66
	Right Turn	1,369	1364	**1505**	**1421**	0	66
WB	Left Turn	1,645	69	127	163	0	0
	Through	1,645	69	127	163	0	0
	Right Turn	1,645	69	127	163	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **Existing**
Queue Length | **PM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	106	199	**243**	3	0
	Through	2,570	86	202	325	1	0
	Right Turn	2,570	414	696	804	0	0
SB	Left Turn	150	50	107	148	0	0
	Through	2,170	74	153	200	18	0
	Right Turn	75	34	**86**	**120**	0	0
EB	Left Turn	525	89	163	195	0	0
	Through	2,722	143	252	275	0	0
	Right Turn	2,722	146	264	302	0	0
WB	Left Turn	625	189	316	390	0	0
	Through	3,152	58	122	148	0	0
	Right Turn	675	65	138	168	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	170	63	168	**229**	0	0
	Through	1,720	288	516	623	22	0
	Right Turn	240	146	**314**	**300**	0	0
SB	Left Turn	315	29	74	114	0	0
	Through	4,006	218	352	403	2	0
	Right Turn	4,006	47	89	109	0	0
EB	Left Turn	225	167	**278**	**285**	2	0
	Through	2,526	250	403	480	33	0
	Right Turn	125	62	**183**	**185**	0	0
WB	Left Turn	310	193	308	**346**	1	0
	Through	1,890	165	286	369	1	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Side Street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	500	60	114	153	0	0
	Through						
	Right Turn						
SB	Left Turn						
	Through	2,187	4	20	42	0	0
	Right Turn	2,187	4	20	42	0	0
EB	Left Turn	200	67	165	**210**	0	0
	Through						
	Right Turn	1,406	180	330	390	14	0
WB	Left Turn						
	Through						
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **Existing**
Queue Length | **PM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	45	109	162	0	0
	Through	1,227	158	266	313	2	0
	Right Turn	1,227	158	266	313	2	0
SB	Left Turn	175	**202**	**291**	**235**	17	0
	Through	1,689	765	1364	1274	49	7
	Right Turn	1,689	765	1364	1274	49	7
EB	Left Turn	775	205	329	353	0	0
	Through	3,481	316	511	597	0	0
	Right Turn	3,481	316	511	597	0	0
WB	Left Turn	75	37	**100**	**135**	2	0
	Through	3,304	256	422	517	47	0
	Right Turn	150	83	**211**	**210**	0	0

Intersection 14 **Roselle Road/Claribel Road** **All-way Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,319	501	940	950	0	0
	Through	2,319	501	940	950	0	0
	Right Turn	2,319	501	940	950	0	0
SB	Left Turn	2,484	106	175	230	0	0
	Through	2,484	106	175	230	0	0
	Right Turn	2,484	106	175	230	0	0
EB	Left Turn	2,084	675	1167	1129	0	1
	Through	2,084	675	1167	1129	0	1
	Right Turn	2,084	675	1167	1129	0	1
WB	Left Turn	2,830	140	242	289	0	0
	Through	2,830	140	242	289	0	0
	Right Turn	2,830	140	242	289	0	0

Intersection 15 **Claus Road/SR 108** **Side Street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,586	43	92	117	0	0
	Through						
	Right Turn	150	59	103	135	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	1,822	9	34	59	0	0
	Right Turn	1,822	9	34	59	0	0
WB	Left Turn	125	60	112	**152**	1	0
	Through	1,982	3	23	83	0	0
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **Existing**
Queue Length | **PM Peak Hour**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	13	39	51	0	0
	Through	2,156	110	194	231	3	0
	Right Turn	150	37	82	139	0	0
SB	Left Turn	250	16	43	56	0	0
	Through	2,402	102	181	219	2	0
	Right Turn	150	24	62	109	0	0
EB	Left Turn	150	35	83	115	0	0
	Through	1,949	101	173	197	18	0
	Right Turn	75	14	55	**108**	0	0
WB	Left Turn	150	67	125	**158**	0	0
	Through	2,758	76	148	195	10	0
	Right Turn	75	12	53	**98**	0	0

Intersection 17 **Crane Road/Patterson Road** **Side Street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn	1,916	30	52	61	0	0
	Through						
	Right Turn	1,916	30	52	61	0	0
EB	Left Turn	2,004	20	58	79	0	0
	Through	2,004	20	58	79	0	0
	Right Turn						
WB	Left Turn						
	Through	5,483	0	0	3	0	0
	Right Turn	5,483	0	0	3	0	0

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,498	16	43	43	2	0
	Through	1,498	16	43	43	2	0
	Right Turn	20	3	15	**26**	0	0
SB	Left Turn	1,216	12	40	59	1	0
	Through	1,216	12	40	59	1	0
	Right Turn	20	6	**26**	**40**	0	0
EB	Left Turn	2,720	0	2	6	0	0
	Through	2,720	0	2	6	0	0
	Right Turn	2,720	0	2	6	0	0
WB	Left Turn	2,487	1	6	15	0	0
	Through	2,487	1	6	15	0	0
	Right Turn	2,487	1	6	15	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **Existing**
Queue Length | **PM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	50	98	129	0	0
	Through	1,261	45	92	121	0	0
	Right Turn	1,261	45	92	121	0	0
SB	Left Turn	100	49	94	**112**	1	0
	Through	1,636	20	62	102	0	0
	Right Turn	75	32	66	**85**	1	0
EB	Left Turn	250	58	138	239	0	0
	Through	4,920	193	341	427	6	0
	Right Turn	200	18	88	190	0	0
WB	Left Turn	250	20	80	155	0	0
	Through	2,614	223	394	526	8	0
	Right Turn	200	42	158	**260**	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,985	173	256	278	0	0
	Through						
	Right Turn						
SB	Left Turn	5,862	335	490	551	0	0
	Through	5,862	335	490	551	0	0
	Right Turn	5,862	254	392	437	0	0
EB	Left Turn	50	**86**	**129**	**110**	51	0
	Through	2,754	369	705	841	50	0
	Right Turn	200	**222**	**297**	**260**	13	0
WB	Left Turn	300	132	271	**350**	0	0
	Through						
	Right Turn	2,542	263	441	532	5	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	72	117	146	0	0
	Through	1,876	95	184	223	27	0
	Right Turn	50	**64**	**117**	**110**	5	0
SB	Left Turn	100	34	83	**121**	1	0
	Through	2,914	74	137	183	5	0
	Right Turn	100	42	91	**148**	0	0
EB	Left Turn	250	64	122	155	0	0
	Through	1,983	152	245	275	1	0
	Right Turn	1,983	160	260	298	0	0
WB	Left Turn	200	70	126	157	0	0
	Through	2,687	129	215	251	1	0
	Right Turn	2,687	143	234	272	0	0

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **Existing**
Queue Length **PM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	17	50	69	0	0
	Through	1,499	174	260	296	0	0
	Right Turn	300	127	237	254	0	0
SB	Left Turn	400	88	153	175	0	0
	Through	1,983	91	165	201	0	0
	Right Turn	300	59	135	169	0	0
EB	Left Turn	225	82	151	191	0	0
	Through	5,669	29	70	101	0	0
	Right Turn	225	11	37	56	0	0
WB	Left Turn						
	Through	2,158	18	52	75	0	0
	Right Turn	225	37	71	88	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	25	65	91	0	0
	Through	1,326	70	123	151	0	0
	Right Turn	1,326	39	88	123	0	0
SB	Left Turn	350	2	10	24	0	0
	Through	1,404	76	135	174	0	0
	Right Turn	350	40	73	87	0	0
EB	Left Turn	225	62	115	148	0	0
	Through	1,997	32	71	90	0	0
	Right Turn	225	16	36	50	0	0
WB	Left Turn	175	10	34	51	0	0
	Through	2,609	34	70	91	0	0
	Right Turn	2,609	34	70	91	0	0

1: Carver & SR 219 (Kiernan Ave)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	28	406	93	56	534	30	151	53	13	7	114	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	80		50	70		50	0		50	0		50
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			1245			2501			2443	
Travel Time (s)		41.3			15.4			34.1			33.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	340	65	122	516	4	67	60	83	16	90	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		1377			3702			3753			4028	
Travel Time (s)		17.1			45.9			51.2			54.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

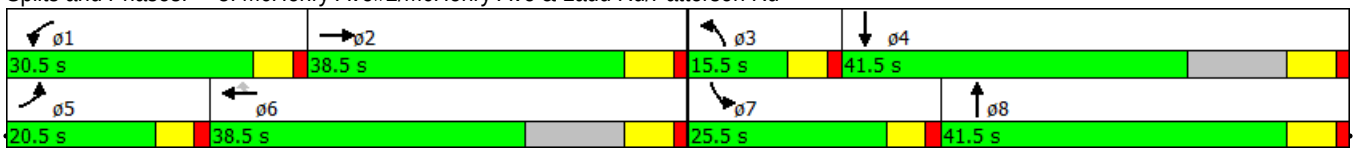
3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	89	21	15	312	125	13	189	4	60	350	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		800
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	38.5		15.5	38.5	38.5	15.5	38.5		15.5	38.5	
Total Split (s)	20.5	38.5		30.5	38.5	38.5	15.5	41.5		25.5	41.5	
Total Split (%)	15.1%	28.3%		22.4%	28.3%	28.3%	11.4%	30.5%		18.8%	30.5%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 136
Actuated Cycle Length: 85.9
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd



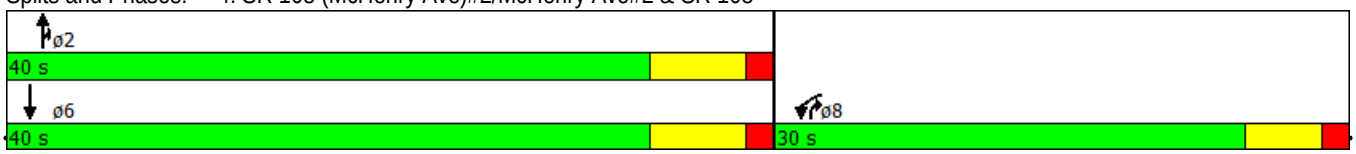
4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	205	0	206	110	0	386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		555	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	30.0		40.0			40.0
Total Split (%)	42.9%		57.1%			57.1%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 39.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108



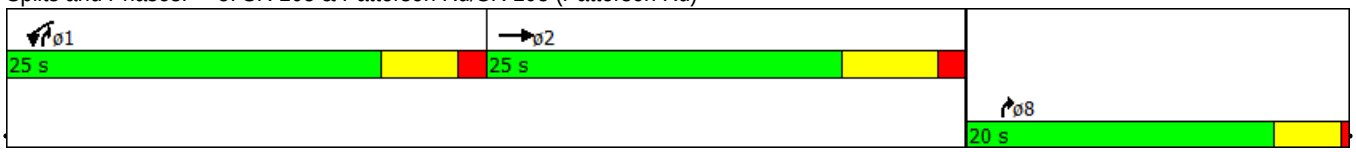
5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	153	0	205	452	0	110	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		60		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	9%	9%	9%	9%	13%	13%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	25.0		25.0				20.0
Total Split (%)	35.7%		35.7%				29%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 47.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)



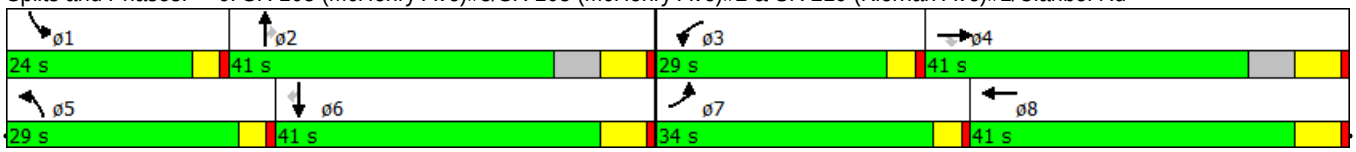
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	85	146	83	186	388	50	71	246	56	29	482	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		0	200		0	260		540	200		300
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			50	
Link Distance (ft)		1550			2638			2021			503	
Travel Time (s)		19.2			32.7			30.6			6.9	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.0	35.0	35.0	9.0	35.0		9.0	28.0	28.0	9.0	37.0	37.0
Total Split (s)	34.0	41.0	41.0	29.0	41.0		29.0	41.0	41.0	24.0	41.0	41.0
Total Split (%)	23.4%	28.3%	28.3%	20.0%	28.3%		20.0%	28.3%	28.3%	16.6%	28.3%	28.3%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0		3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0		0.0	-2.0	-2.0	0.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 145
Actuated Cycle Length: 100.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	184	409	143	50	617	236	184	523	30	59	528	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		0	300		350	225		50	200		50
Storage Lanes	2		1	2		2	2		1	2		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4998			1020			3932			1832	
Travel Time (s)		75.7			15.5			67.0			31.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.0	33.7	33.7	9.0	32.7	10.7	9.0	43.7	43.7	10.7	43.7	43.7
Total Split (s)	24.0	35.7	35.7	29.0	35.7	30.0	34.0	55.7	55.7	30.0	55.7	55.7
Total Split (%)	15.5%	23.1%	23.1%	18.8%	23.1%	19.4%	22.0%	36.1%	36.1%	19.4%	36.1%	36.1%
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 154.4
Actuated Cycle Length: 90.8
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

8: Coffee Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	176	36	81	395	2	90	98	84	9	252	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		20	0		20
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2636			2696			1576			2024	
Travel Time (s)		32.7			33.4			23.9			30.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

9: Coffee Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	63	134	205	21	422	17	333	202	2	12	259	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1474			1750			1337			1336	
Travel Time (s)		22.3			21.7			20.3			20.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

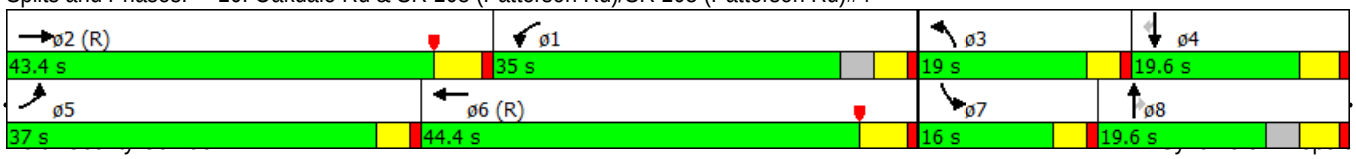
10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	255	38	233	503	28	112	52	139	44	99	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		675	200		0	150		75
Storage Lanes	1		0	2		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3272			2623			2223	
Travel Time (s)		42.0			63.7			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	37.0	43.4		35.0	44.4		19.0	19.6	19.6	16.0	19.6	19.6
Total Split (%)	30.8%	36.2%		29.2%	37.0%		15.8%	16.3%	16.3%	13.3%	16.3%	16.3%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	-0.6	-0.6	0.0	-0.6	-0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4



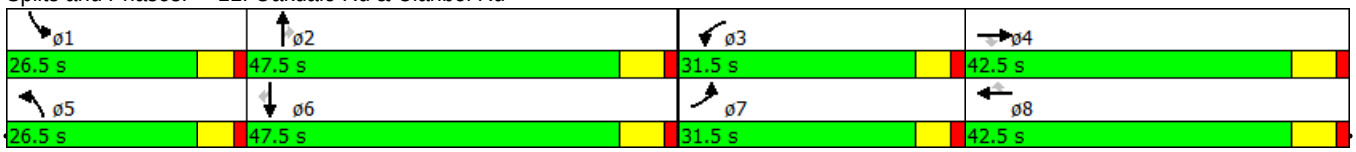
11: Oakdale Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	177	40	222	333	30	28	255	123	31	479	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		125	310		0	170		240	315		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2604			1936			1795			4042	
Travel Time (s)		32.3			24.0			27.2			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	32.5
Total Split (s)	31.5	42.5	42.5	31.5	42.5	42.5	26.5	47.5	47.5	26.5	47.5	47.5
Total Split (%)	21.3%	28.7%	28.7%	21.3%	28.7%	28.7%	17.9%	32.1%	32.1%	17.9%	32.1%	32.1%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 148
Actuated Cycle Length: 111.8
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



12: Oakdale Rd & Claratina Ave

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	6	139	354	356	616	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	200	0	500			0
Storage Lanes	1	1	1			0
Taper Length (ft)	60		60			
Link Speed (mph)	55			45	45	
Link Distance (ft)	1440			2104	2250	
Travel Time (s)	17.9			31.9	34.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	8%	8%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

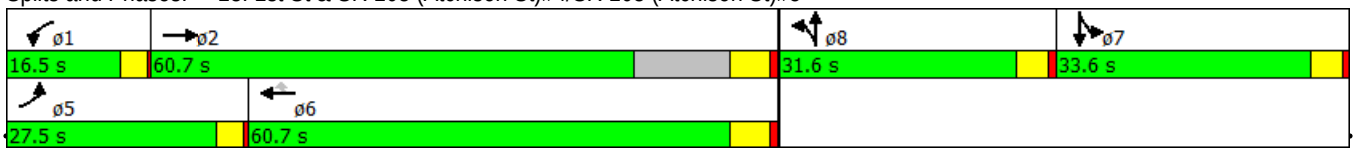
13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	106	313	11	12	470	157	42	154	27	141	93	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	775		0	75		150	250		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3283			3348			1265			1732	
Travel Time (s)		64.0			65.2			28.8			39.4	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	23%	23%	23%	23%	23%	23%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	8	8		7	7	
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	
Total Split (s)	27.5	60.7		16.5	60.7	60.7	31.6	31.6		33.6	33.6	
Total Split (%)	17.9%	39.6%		10.8%	39.6%	39.6%	20.6%	20.6%		21.9%	21.9%	
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	-0.6	-0.6		-0.6	-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 153.4
Actuated Cycle Length: 121.7
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5



14: Roselle & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	169	137	29	362	46	94	220	20	52	309	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2444			2646			2348			2512	
Travel Time (s)		30.3			32.8			35.6			38.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	CBD
Control Type: Unsignalized	

15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	337	132	173	602	45	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	125		0	150
Storage Lanes		0	1		1	1
Taper Length (ft)			60		60	
Link Speed (mph)	35			45	45	
Link Distance (ft)	1853			2021	1620	
Travel Time (s)	36.1			30.6	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

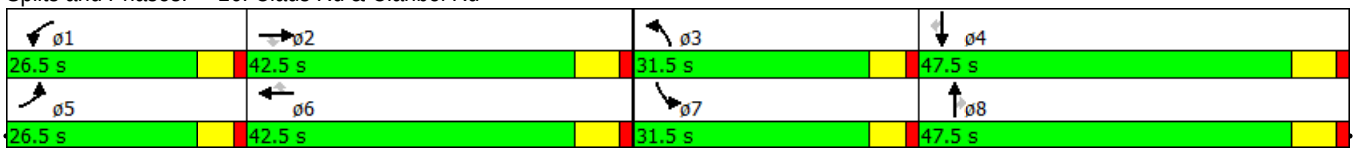
16: Claus Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	29	117	13	101	183	20	8	219	96	12	308	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		75	150		75	250		150	250		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		2195			2805			2202			2448	
Travel Time (s)		27.2			34.8			27.3			37.1	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.5	29.5	29.5	11.5	29.5	29.5	11.5	30.5	30.5	11.5	30.5	30.5
Total Split (s)	26.5	42.5	42.5	26.5	42.5	42.5	31.5	47.5	47.5	31.5	47.5	47.5
Total Split (%)	17.9%	28.7%	28.7%	17.9%	28.7%	28.7%	21.3%	32.1%	32.1%	21.3%	32.1%	32.1%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 148
Actuated Cycle Length: 63.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & Claribel Rd



17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	58	98	129	19	31	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		45	
Link Distance (ft)		2026	5411		1944	
Travel Time (s)		25.1	67.1		29.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	21%	21%	21%	21%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

18: Bentley & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	196	3	8	274	1	8	13	3	2	20	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		20	0		20
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		2761			2529			1526			1244	
Travel Time (s)		62.8			31.4			23.1			18.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

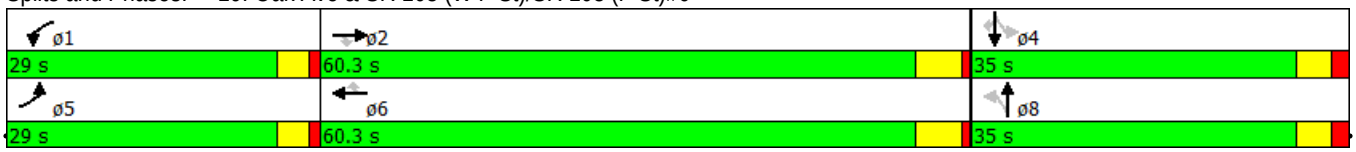
19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	533	36	34	523	56	85	49	15	104	55	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		200	250		200	250		0	100		75
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		4958			2639			1311			1681	
Travel Time (s)		84.5			60.0			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	19%	2%	2%	19%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		4
Detector Phase	5	2	2	1	6	6	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3	25.3	9.0	29.3	29.3	32.0	32.0		34.0	34.0	34.0
Total Split (s)	29.0	60.3	60.3	29.0	60.3	60.3	35.0	35.0		35.0	35.0	35.0
Total Split (%)	23.3%	48.5%	48.5%	23.3%	48.5%	48.5%	28.2%	28.2%		28.2%	28.2%	28.2%
Yellow Time (s)	3.0	4.3	4.3	3.0	4.3	4.3	3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3	-1.3	0.0	-1.3	-1.3	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 124.3
Actuated Cycle Length: 68.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6



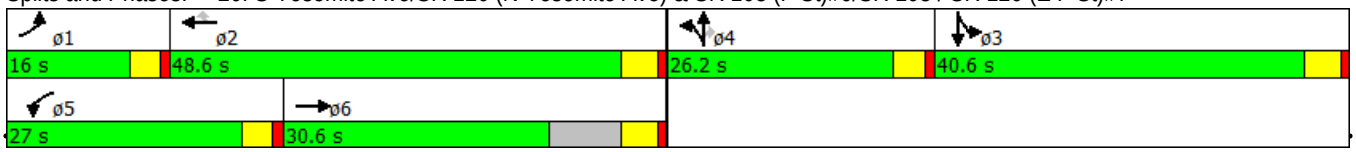
20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	353	44	123	415	304	90	260	163	304	289	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2792			2562			1983			5906	
Travel Time (s)		76.1			58.2			45.1			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	19%	19%	19%	19%	19%	19%	20%	20%	20%	20%	20%	20%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	16.0	30.6		27.0	48.6	48.6	26.2	26.2	26.2	40.6	40.6	
Total Split (%)	12.2%	23.3%		20.5%	37.0%	37.0%	19.9%	19.9%	19.9%	30.9%	30.9%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-0.6		0.0	-0.6	-0.6		-0.2	-0.2		-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 131.4
Actuated Cycle Length: 122.8
Natural Cycle: 95
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7



21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	342	158	144	510	26	253	97	74	23	137	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2028			2745			1922			2964	
Travel Time (s)		39.5			53.5			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	19%	2%	2%	19%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	28.0	55.7		28.0	55.7		28.0	38.9	38.9	28.0	38.9	38.9
Total Split (%)	18.6%	37.0%		18.6%	37.0%		18.6%	25.8%	25.8%	18.6%	25.8%	25.8%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	-0.9	-0.9	0.0	-0.9	-0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 150.6
Actuated Cycle Length: 83.3
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

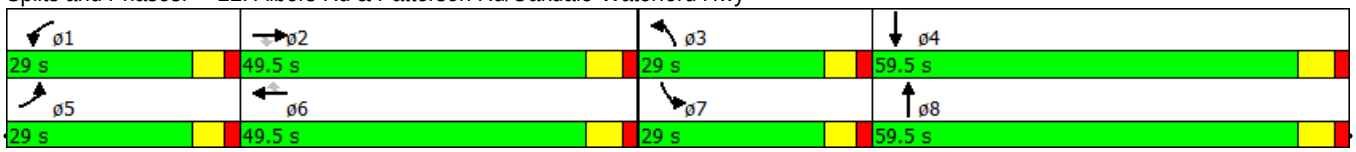
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	84	19	16	3	45	134	12	489	0	79	611	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		300
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5607			2285			1544			2026	
Travel Time (s)		69.5			28.3			19.1			25.1	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	21%	21%	21%	21%	21%	21%	16%	16%	16%	16%	16%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	29.5	29.5	14.0	29.5	29.5	14.0	29.5		14.0	29.5	
Total Split (s)	29.0	49.5	49.5	29.0	49.5	49.5	29.0	59.5		29.0	59.5	
Total Split (%)	17.4%	29.6%	29.6%	17.4%	29.6%	29.6%	17.4%	35.6%		17.4%	35.6%	
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5		4.0	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5	-2.5	-2.0	-2.5	-2.5	-2.0	-2.5		-2.0	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 167
Actuated Cycle Length: 72.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



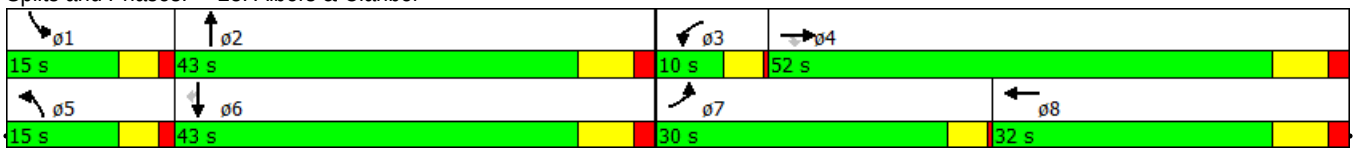
23: Albers & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	15	38	16	109	2	40	303	16	1	448	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	18%	18%	18%	18%	18%	18%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	30.0	52.0	52.0	10.0	32.0		15.0	43.0		15.0	43.0	43.0
Total Split (%)	25.0%	43.3%	43.3%	8.3%	26.7%		12.5%	35.8%		12.5%	35.8%	35.8%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 76.6
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel



101: SR 219 (Kiernan Ave)#1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	314	125	0	629	0	0	0	0	0	0	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3702			1550			380			330	
Travel Time (s)		45.9			19.2			8.6			7.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

103: Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	231	0	0	624	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2638			2636			394			400	
Travel Time (s)		32.7			32.7			9.0			9.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

109: Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	269	0	0	478	19	0	0	38	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2696			2604			289			323	
Travel Time (s)		33.4			32.3			6.6			7.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

111: Oakdale Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	2	0	0	44	0	362	0	0	741	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		100	0		100
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		827			913			2250			1795	
Travel Time (s)		18.8			20.8			34.1			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

1: Carver & SR 219 (Kiernan Ave)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	541	76	26	463	8	34	85	25	4	69	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	80		50	70		50	0		70	0		70
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	60			60			0			0		
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		3332			2622			2505			2443	
Travel Time (s)		41.3			32.5			38.0			37.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	39	468	63	128	428	22	55	125	97	16	103	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			3702			3753			4028	
Travel Time (s)		32.5			45.9			51.2			54.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

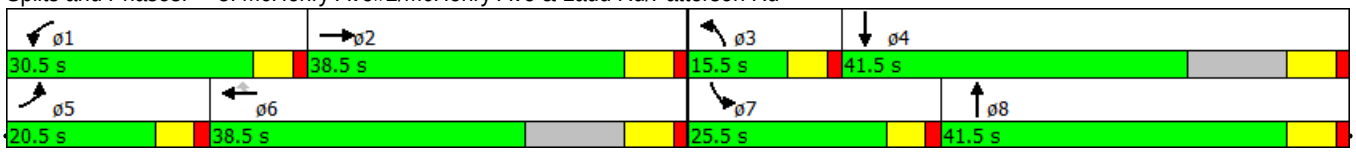
3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	171	234	12	10	236	96	26	341	10	144	316	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		800
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	38.5		15.5	38.5	38.5	15.5	38.5		15.5	38.5	
Total Split (s)	20.5	38.5		30.5	38.5	38.5	15.5	41.5		25.5	41.5	
Total Split (%)	15.1%	28.3%		22.4%	28.3%	28.3%	11.4%	30.5%		18.8%	30.5%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 136
Actuated Cycle Length: 89.3
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd



4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	117	0	377	326	0	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		550	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	24.0		46.0			46.0
Total Split (%)	34.3%		65.7%			65.7%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 43.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

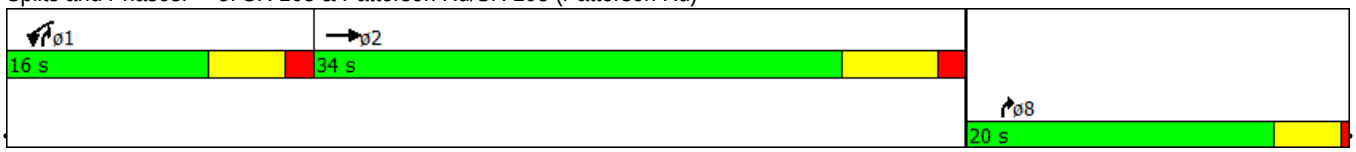
5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	388	0	117	342	0	326	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		60		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	8%	8%	8%	8%	9%	9%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						1 8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	34.0		16.0				20.0
Total Split (%)	48.6%		22.9%				29%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 52.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)



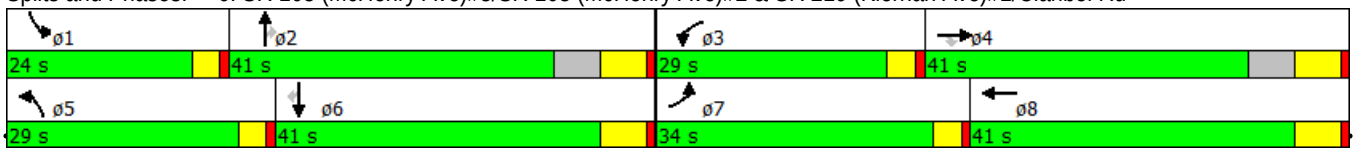
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	247	303	188	123	288	43	125	598	183	23	408	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		0	200		0	260		540	200		300
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			50	
Link Distance (ft)		1550			2638			2021			503	
Travel Time (s)		19.2			32.7			30.6			6.9	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.0	35.0	35.0	9.0	35.0		9.0	28.0	28.0	9.0	37.0	37.0
Total Split (s)	34.0	41.0	41.0	29.0	41.0		29.0	41.0	41.0	24.0	41.0	41.0
Total Split (%)	23.4%	28.3%	28.3%	20.0%	28.3%		20.0%	28.3%	28.3%	16.6%	28.3%	28.3%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0		3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0		0.0	-2.0	-2.0	0.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 145
Actuated Cycle Length: 105.5
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd



7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	177	618	236	67	441	122	250	708	95	329	832	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		0	300		350	225		50	200		50
Storage Lanes	2		1	2		2	2		1	2		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		5000			1020			3932			1838	
Travel Time (s)		75.8			15.5			67.0			31.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.0	33.7	33.7	9.0	32.7	10.7	9.0	43.7	43.7	10.7	43.7	43.7
Total Split (s)	24.0	35.7	35.7	29.0	35.7	30.0	34.0	55.7	55.7	30.0	55.7	55.7
Total Split (%)	15.5%	23.1%	23.1%	18.8%	23.1%	19.4%	22.0%	36.1%	36.1%	19.4%	36.1%	36.1%
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 154.4
Actuated Cycle Length: 104.1
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

8: Coffee Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	376	56	72	320	3	70	249	204	8	146	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		20	0		20
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2636			2696			1576			2024	
Travel Time (s)		32.7			33.4			23.9			30.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

9: Coffee Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	207	408	354	19	193	12	284	347	15	16	186	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	16	16	16	16	16	16	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1474			1750			1337			1336	
Travel Time (s)		22.3			21.7			20.3			20.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

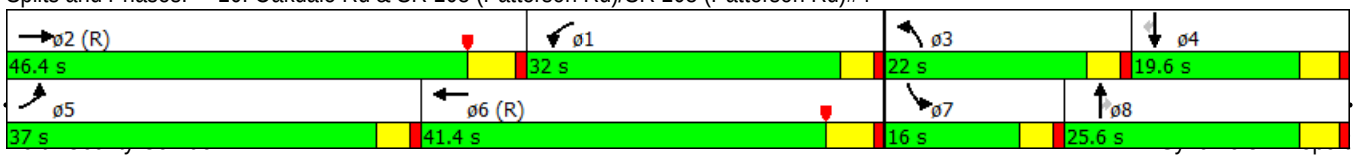
10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	83	568	110	366	357	22	103	82	241	40	69	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		675	200		0	150		75
Storage Lanes	1		0	2		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3199			2623			2223	
Travel Time (s)		42.0			62.3			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	37.0	46.4		32.0	41.4		22.0	25.6	25.6	16.0	19.6	19.6
Total Split (%)	30.8%	38.7%		26.7%	34.5%		18.3%	21.3%	21.3%	13.3%	16.3%	16.3%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	-0.6	-0.6	0.0	-0.6	-0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4



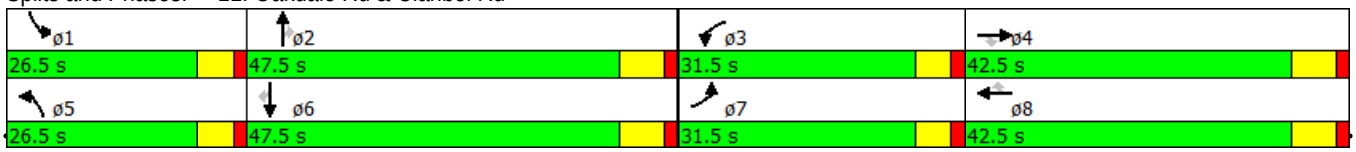
11: Oakdale Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	215	362	58	231	255	39	45	436	284	28	357	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		125	310		0	170		240	315		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2604			1936			1795			4042	
Travel Time (s)		32.3			24.0			27.2			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	8%	8%	8%	8%	8%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	32.5
Total Split (s)	31.5	42.5	42.5	31.5	42.5	42.5	26.5	47.5	47.5	26.5	47.5	47.5
Total Split (%)	21.3%	28.7%	28.7%	21.3%	28.7%	28.7%	17.9%	32.1%	32.1%	17.9%	32.1%	32.1%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 148
Actuated Cycle Length: 116.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



12: Oakdale Rd & Claratina Ave

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	53	396	179	726	562	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	200	0	500			0
Storage Lanes	1	1	1			0
Taper Length (ft)	60		60			
Link Speed (mph)	55			45	45	
Link Distance (ft)	1440			2104	2250	
Travel Time (s)	17.9			31.9	34.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

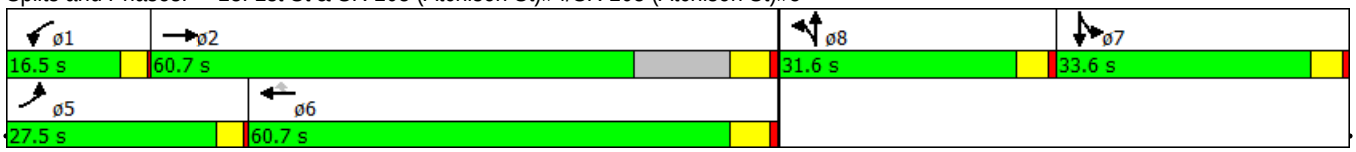
13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	234	532	17	23	357	96	48	162	21	201	175	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	775		0	75		150	250		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3516			3342			1265			1737	
Travel Time (s)		68.5			65.1			28.8			39.5	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	16%	16%	16%	16%	16%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	8	8		7	7	
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	
Total Split (s)	27.5	60.7		16.5	60.7	60.7	31.6	31.6		33.6	33.6	
Total Split (%)	17.9%	39.6%		10.8%	39.6%	39.6%	20.6%	20.6%		21.9%	21.9%	
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	-0.6	-0.6		-0.6	-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 153.4
Actuated Cycle Length: 124
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5



14: Roselle & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	315	125	30	267	64	135	291	21	40	218	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2114			2858			2348			2512	
Travel Time (s)		48.0			65.0			53.4			57.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	CBD
Control Type: Unsignalized	

15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	574	136	178	395	45	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	125		0	150
Storage Lanes		0	1		1	1
Taper Length (ft)			60		60	
Link Speed (mph)	35			45	45	
Link Distance (ft)	1855			2012	1620	
Travel Time (s)	36.1			30.5	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

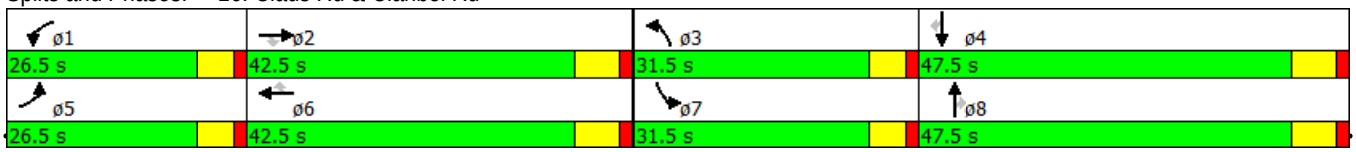
16: Claus Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	192	18	117	150	16	16	300	137	18	273	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		75	150		75	250		150	250		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1995			2805			2202			2448	
Travel Time (s)		24.7			34.8			27.3			37.1	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.5	29.5	29.5	11.5	29.5	29.5	11.5	30.5	30.5	11.5	30.5	30.5
Total Split (s)	26.5	42.5	42.5	26.5	42.5	42.5	31.5	47.5	47.5	31.5	47.5	47.5
Total Split (%)	17.9%	28.7%	28.7%	17.9%	28.7%	28.7%	21.3%	32.1%	32.1%	21.3%	32.1%	32.1%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 148
Actuated Cycle Length: 74.8
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & Claribel Rd



17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	172	141	123	15	6	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		45	
Link Distance (ft)		2026	5517		1944	
Travel Time (s)		25.1	68.4		29.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	16%	16%	16%	16%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

18: Bentley & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	280	9	6	210	7	3	17	2	3	10	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		20	0		20
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	0			0			0			0		
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2761			2529			1526			1244	
Travel Time (s)		34.2			31.4			23.1			18.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

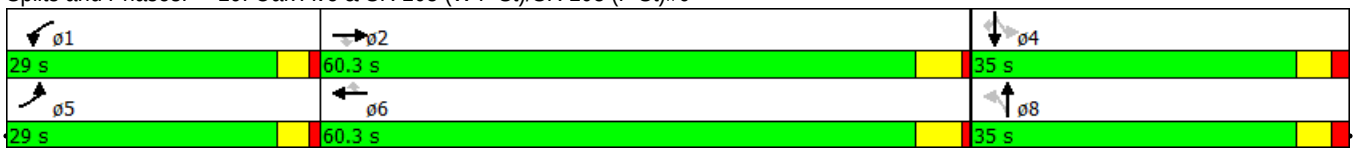
19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	77	712	30	16	562	57	81	40	52	77	34	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		200	250		200	250		0	100		75
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		4965			2649			1311			1681	
Travel Time (s)		84.6			60.2			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	13%	2%	2%	13%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		4
Detector Phase	5	2	2	1	6	6	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3	25.3	9.0	29.3	29.3	32.0	32.0		34.0	34.0	34.0
Total Split (s)	29.0	60.3	60.3	29.0	60.3	60.3	35.0	35.0		35.0	35.0	35.0
Total Split (%)	23.3%	48.5%	48.5%	23.3%	48.5%	48.5%	28.2%	28.2%		28.2%	28.2%	28.2%
Yellow Time (s)	3.0	4.3	4.3	3.0	4.3	4.3	3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3	-1.3	0.0	-1.3	-1.3	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 124.3
Actuated Cycle Length: 68.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6



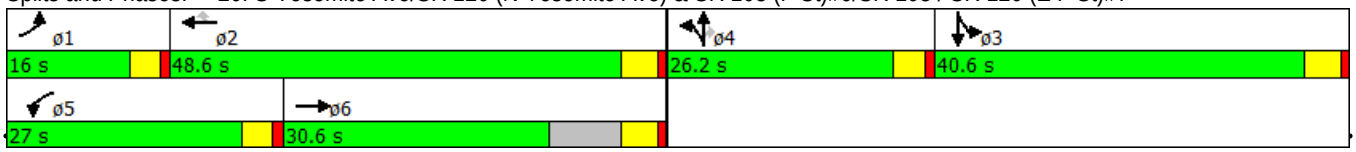
20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	89	536	44	128	382	379	91	305	183	340	327	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2796			2596			2033			5906	
Travel Time (s)		76.3			59.0			46.2			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	15%	15%	15%	15%	15%	15%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	16.0	30.6		27.0	48.6	48.6	26.2	26.2	26.2	40.6	40.6	
Total Split (%)	12.2%	23.3%		20.5%	37.0%	37.0%	19.9%	19.9%	19.9%	30.9%	30.9%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-0.6		0.0	-0.6	-0.6		-0.2	-0.2		-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 131.4
Actuated Cycle Length: 113.4
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7



21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	92	602	170	104	592	37	158	158	156	37	113	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2039			2740			1922			2964	
Travel Time (s)		39.7			53.4			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	13%	2%	2%	13%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	28.0	55.7		28.0	55.7		28.0	38.9	38.9	28.0	38.9	38.9
Total Split (%)	18.6%	37.0%		18.6%	37.0%		18.6%	25.8%	25.8%	18.6%	25.8%	25.8%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	-0.9	-0.9	0.0	-0.9	-0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 150.6
Actuated Cycle Length: 80.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

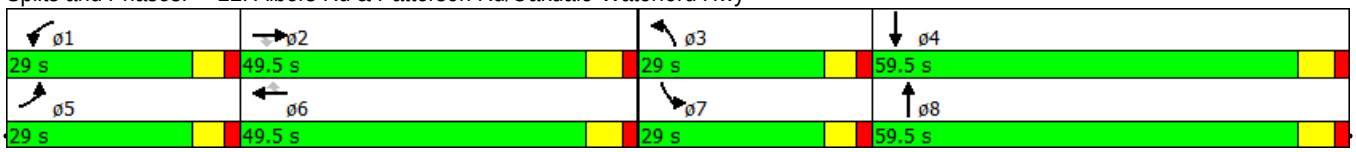
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	35	14	0	20	103	18	619	2	133	474	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		300
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5715			2210			1544			2026	
Travel Time (s)		70.8			27.4			19.1			25.1	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	16%	16%	16%	16%	16%	16%	12%	12%	12%	12%	12%	12%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	29.5	29.5	14.0	29.5	29.5	14.0	29.5		14.0	29.5	
Total Split (s)	29.0	49.5	49.5	29.0	49.5	49.5	29.0	59.5		29.0	59.5	
Total Split (%)	17.4%	29.6%	29.6%	17.4%	29.6%	29.6%	17.4%	35.6%		17.4%	35.6%	
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5		4.0	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5	-2.5	-2.0	-2.5	-2.5	-2.0	-2.5		-2.0	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 167
Actuated Cycle Length: 88.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



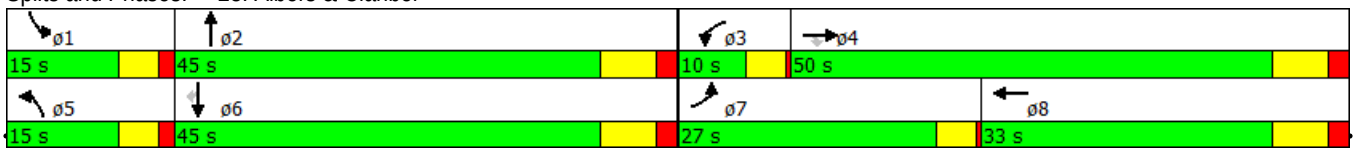
23: Albers & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	126	87	61	12	42	5	35	480	21	2	343	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	27.0	50.0	50.0	10.0	33.0		15.0	45.0		15.0	45.0	45.0
Total Split (%)	22.5%	41.7%	41.7%	8.3%	27.5%		12.5%	37.5%		12.5%	37.5%	37.5%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 54.6
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel



101: SR 219 (Kiernan Ave)#1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	581	0	0	550	0	0	0	157	0	0	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3702			1550			380			330	
Travel Time (s)		45.9			19.2			8.6			7.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

103: Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	490	19	0	454	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2638			2636			394			400	
Travel Time (s)		32.7			32.7			9.0			9.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

109: Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	588	0	0	395	40	0	0	47	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		100	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2696			2604			289			323	
Travel Time (s)		33.4			32.3			6.6			7.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

111: Oakdale Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	0	0	0	765	14	0	620	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		100	0		100
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		827			913			2250			1795	
Travel Time (s)		18.8			20.8			34.1			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

MOVEMENT SUMMARY

Site: 6. Coffee/Claratina AM

Roundabout with 1-lane approaches and circulating road

Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Coffee Road											
3L	L	392	5.0	0.601	16.3	LOS C	6.7	174.6	0.72	0.78	30.7
8T	T	238	5.0	0.602	9.8	LOS A	6.7	174.6	0.72	0.68	32.2
8R	R	2	5.0	0.588	12.0	LOS B	6.7	174.6	0.72	0.72	33.5
Approach		632	5.0	0.601	13.8	LOS C	6.7	174.6	0.72	0.75	31.3
East: Claratina Avenue											
1L	L	25	5.0	1.176	122.8	LOS F	43.4	1128.6	1.00	2.07	10.1
6T	T	496	5.0	1.168	116.8	LOS F	43.4	1128.6	1.00	2.07	10.0
6R	R	20	5.0	1.176	117.8	LOS F	43.4	1128.6	1.00	2.07	9.9
Approach		541	5.0	1.169	117.1	LOS F	43.4	1128.6	1.00	2.07	10.0
North: Coffee Road											
7L	L	14	5.0	1.086	99.5	LOS F	30.0	778.8	1.00	1.90	12.5
4T	T	305	5.0	1.081	91.9	LOS F	30.0	778.8	1.00	1.90	11.6
4R	R	113	5.0	1.076	93.0	LOS F	30.0	778.8	1.00	1.90	11.5
Approach		432	5.0	1.081	92.4	LOS F	30.0	778.8	1.00	1.90	11.6
West: Claratina Avenue											
5L	L	74	5.0	0.645	19.9	LOS C	7.8	202.8	0.84	0.94	28.8
2T	T	158	5.0	0.643	14.6	LOS B	7.8	202.8	0.84	0.89	32.5
2R	R	241	5.0	0.643	14.6	LOS B	7.8	202.8	0.84	0.90	31.0
Approach		473	5.0	0.643	15.4	LOS C	7.8	202.8	0.84	0.90	31.2
All Vehicles		2078	5.0	1.176	57.4	LOS F	43.4	1128.6	0.88	1.37	16.5

Level of Service (Aver. Int. Delay): LOS F. Based on average delay for all vehicle movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (HCM).
Approach LOS values are based on the worst delay for any vehicle movement.
Roundabout LOS Method: Same as Sign Control.
Roundabout Capacity Model: SIDRA Standard.

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MOVEMENT SUMMARY

Site: 6. Coffee/Claratina PM

Roundabout with 1-lane approaches and circulating road

Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Coffee Road											
3L	L	293	5.0	1.003	55.3	LOS F	30.1	781.5	1.00	1.67	17.2
8T	T	358	5.0	1.002	48.8	LOS E	30.1	781.5	1.00	1.67	17.6
8R	R	15	5.0	1.031	51.1	LOS F	30.1	781.5	1.00	1.67	18.6
Approach		666	5.0	1.002	51.7	LOS F	30.1	781.5	1.00	1.67	17.4
East: Claratina Avenue											
1L	L	20	5.0	0.632	34.0	LOS D	6.8	175.9	0.98	1.11	24.8
6T	T	199	5.0	0.642	28.0	LOS D	6.8	175.9	0.98	1.11	26.0
6R	R	12	5.0	0.651	29.0	LOS D	6.8	175.9	0.98	1.11	26.0
Approach		231	5.0	0.641	28.5	LOS D	6.8	175.9	0.98	1.11	25.9
North: Coffee Road											
7L	L	16	5.0	0.500	21.8	LOS C	4.4	115.5	0.81	1.01	30.0
4T	T	192	5.0	0.493	14.2	LOS B	4.4	115.5	0.81	0.93	31.0
4R	R	87	5.0	0.492	15.4	LOS C	4.4	115.5	0.81	0.95	30.7
Approach		295	5.0	0.493	15.0	LOS C	4.4	115.5	0.81	0.94	30.8
West: Claratina Avenue											
5L	L	213	5.0	1.100	75.0	LOS F	59.9	1557.1	1.00	1.78	14.0
2T	T	421	5.0	1.098	69.7	LOS F	59.9	1557.1	1.00	1.78	15.2
2R	R	365	5.0	1.099	69.6	LOS F	59.9	1557.1	1.00	1.78	14.1
Approach		999	5.0	1.099	70.8	LOS F	59.9	1557.1	1.00	1.78	14.6
All Vehicles		2191	5.0	1.100	53.0	LOS F	59.9	1557.1	0.97	1.57	17.4

Level of Service (Aver. Int. Delay): LOS F. Based on average delay for all vehicle movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (HCM).
Approach LOS values are based on the worst delay for any vehicle movement.
Roundabout LOS Method: Same as Sign Control.
Roundabout Capacity Model: SIDRA Standard.

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APPENDIX E:
EXISTING SIGNAL WARRANT ANALYSIS WORKSHEETS

FEHR & PEERS
TRANSPORTATION CONSULTANTS

Sheet No	1	of	?

Project	North County Corridor PA_ED
Scenario	Existing Conditions
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Tully Road

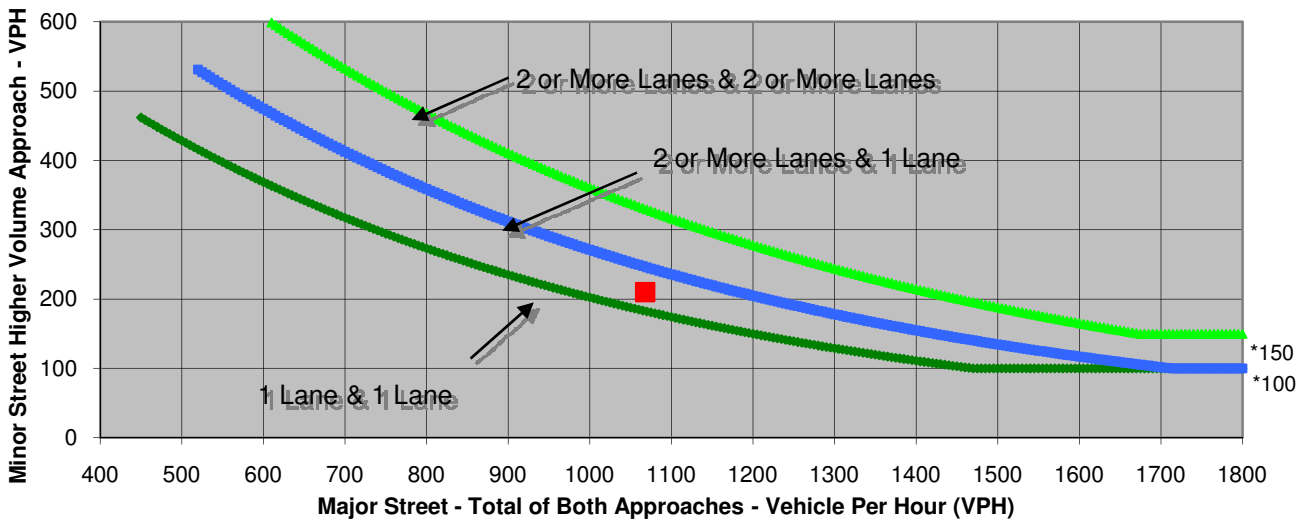
Turn Movement Volumes

	NB	SB	EB	WB
Left	67	16	21	122
Through	60	90	340	516
Right	83	37	65	4
Total	210	143	426	642

Major Street Direction

	North/South
x	East/West

Figure 4C-3
Warrant 3, Peak Hour
(Urban Areas)



* Note: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2006

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	1	1	YES
Traffic Volume (VPH) *	1,068	210	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR & PEERS
TRANSPORTATION CONSULTANTS

Sheet No	1	of	?
Project	North County Corridor PA_ED		
Scenario	Existing Conditions		
Peak Hour	PM		

Major Street	Kiernan Avenue
Minor Street	Tully Road

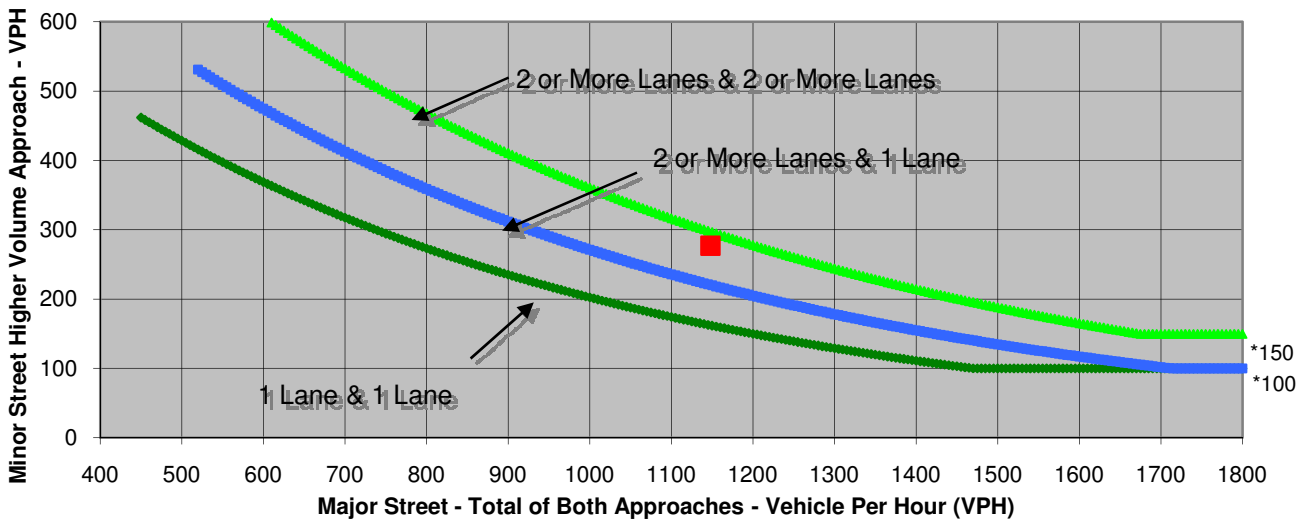
Turn Movement Volumes

	NB	SB	EB	WB
Left	55	16	39	128
Through	125	103	468	428
Right	97	14	63	22
Total	277	133	570	578

Major Street Direction

	North/South
x	East/West

Figure 4C-3
Warrant 3, Peak Hour
(Urban Areas)



* Note: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2006

	Major Street	**Minor Street**	**Warrant Met**
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	1	1	YES
Traffic Volume (VPH) *	1,148	277	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

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Sheet No	1	of	?
Project	North County Corridor PA_ED		
Scenario	Existing Conditions		
Peak Hour	AM		
Major Street	Claribel Road		
Minor Street	Coffee Road		

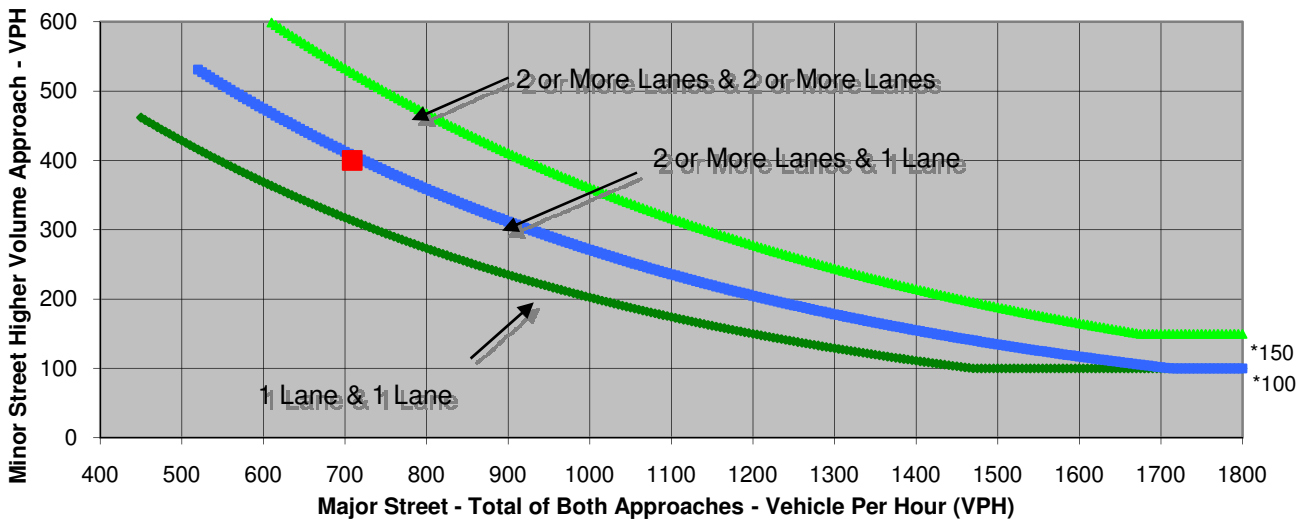
Turn Movement Volumes

	NB	SB	EB	WB
Left	90	9	19	81
Through	98	252	176	395
Right	84	139	36	2
Total	272	400	231	478

Major Street Direction

	North/South
x	East/West

Figure 4C-3
Warrant 3, Peak Hour
(Urban Areas)



* Note: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2006

	Major Street	Minor Street	Warrant Met
	Claribel Road	Coffee Road	
Number of Approach Lanes	1	1	YES
Traffic Volume (VPH) *	709	400	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR & PEERS
TRANSPORTATION CONSULTANTS

Sheet No	1	of	?
Project	North County Corridor PA_ED		
Scenario	Existing Conditions		
Peak Hour	PM		

Major Street	Claribel Road
Minor Street	Coffee Road

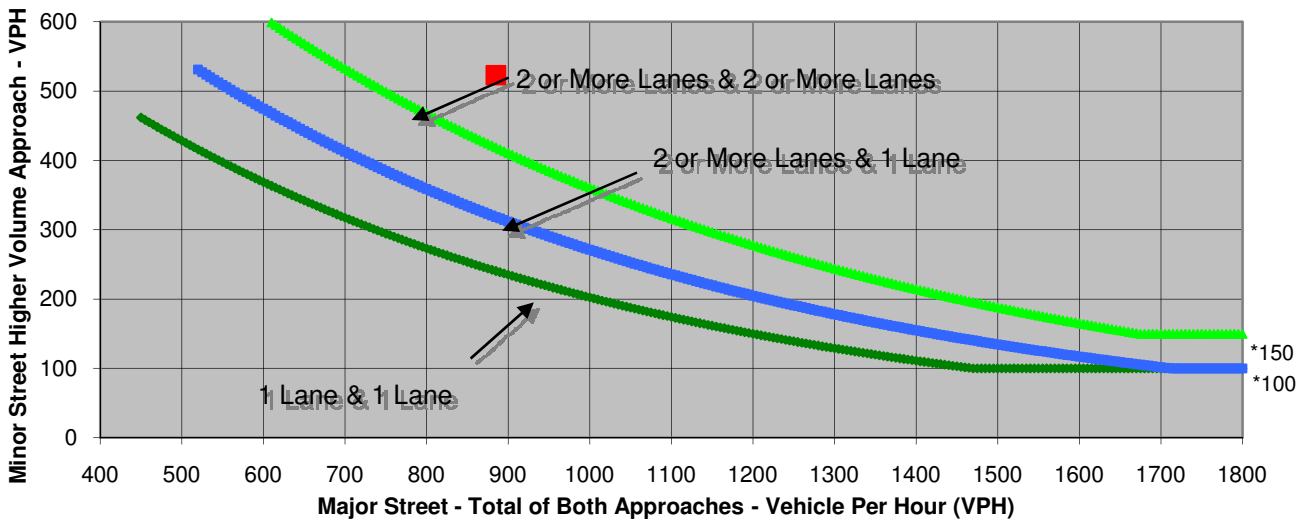
Turn Movement Volumes

	NB	SB	EB	WB
Left	70	8	58	72
Through	249	146	376	320
Right	204	64	56	3
Total	523	218	490	395

Major Street Direction

	North/South
x	East/West

Figure 4C-3
Warrant 3, Peak Hour
(Urban Areas)



* Note: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2006

	Major Street	**Minor Street**	**Warrant Met**
	Claribel Road	Coffee Road	
Number of Approach Lanes	1	1	YES
Traffic Volume (VPH) *	885	523	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR & PEERS
TRANSPORTATION CONSULTANTS

Sheet No	1	of	?
Project	North County Corridor PA_ED		
Scenario	Existing Conditions		
Peak Hour	AM		

Major Street	Oakdale Road
Minor Street	Pelandale Avenue

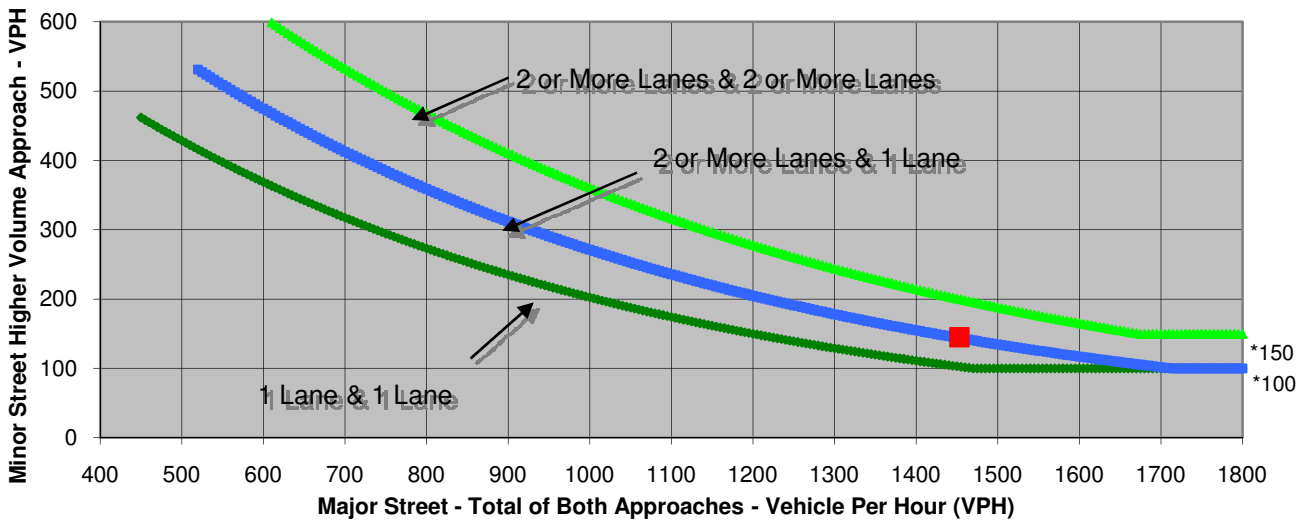
Turn Movement Volumes

	NB	SB	EB	WB
Left	354	0	6	0
Through	356	616	0	0
Right	0	127	139	0
Total	710	743	145	0

Major Street Direction

x	North/South
	East/West

Figure 4C-3
Warrant 3, Peak Hour
(Urban Areas)



* Note: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2006

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Pelandale Avenue	
Number of Approach Lanes	1	1	YES
Traffic Volume (VPH) *	1,453	145	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR & PEERS
TRANSPORTATION CONSULTANTS

Sheet No	1	of	?
Project	North County Corridor PA_ED		
Scenario	Existing Conditions		
Peak Hour	PM		

Major Street	Oakdale Road
Minor Street	Pelandale Avenue

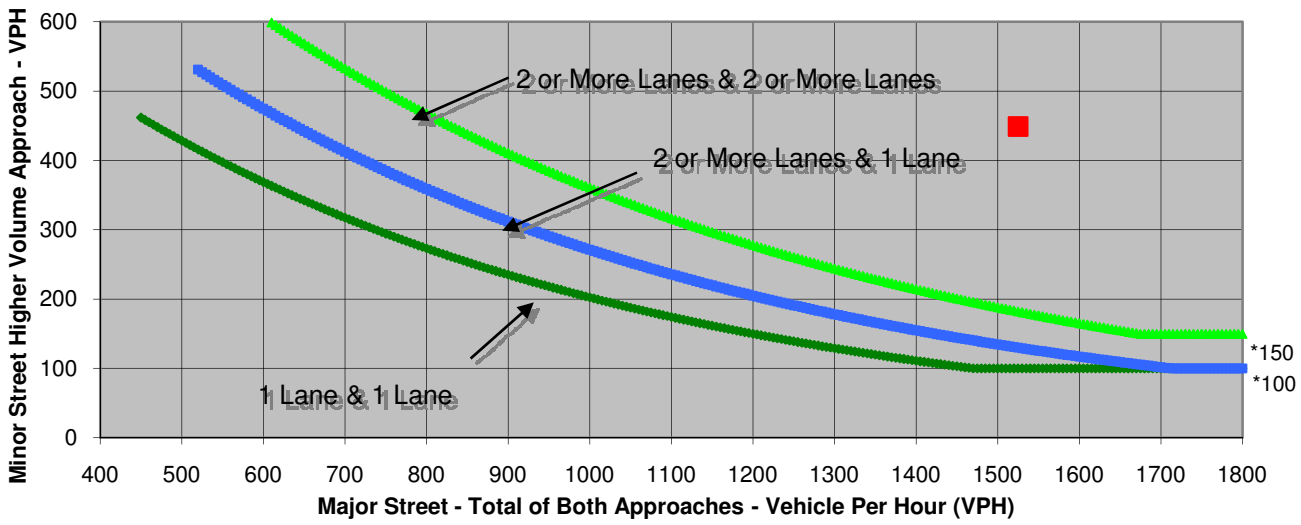
Turn Movement Volumes

	NB	SB	EB	WB
Left	179	0	53	0
Through	726	562	0	0
Right	0	58	396	0
Total	905	620	449	0

Major Street Direction

x	North/South
	East/West

Figure 4C-3
Warrant 3, Peak Hour
(Urban Areas)



* Note: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2006

	Major Street	**Minor Street**	**Warrant Met**
	Oakdale Road	Pelandale Avenue	
Number of Approach Lanes	1	1	YES
Traffic Volume (VPH) *	1,525	449	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

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TRANSPORTATION CONSULTANTS

Sheet No	1	of	?

Project	North County Corridor PA_ED
Scenario	Existing Conditions
Peak Hour	AM

Major Street	SR 108
Minor Street	Claus Road

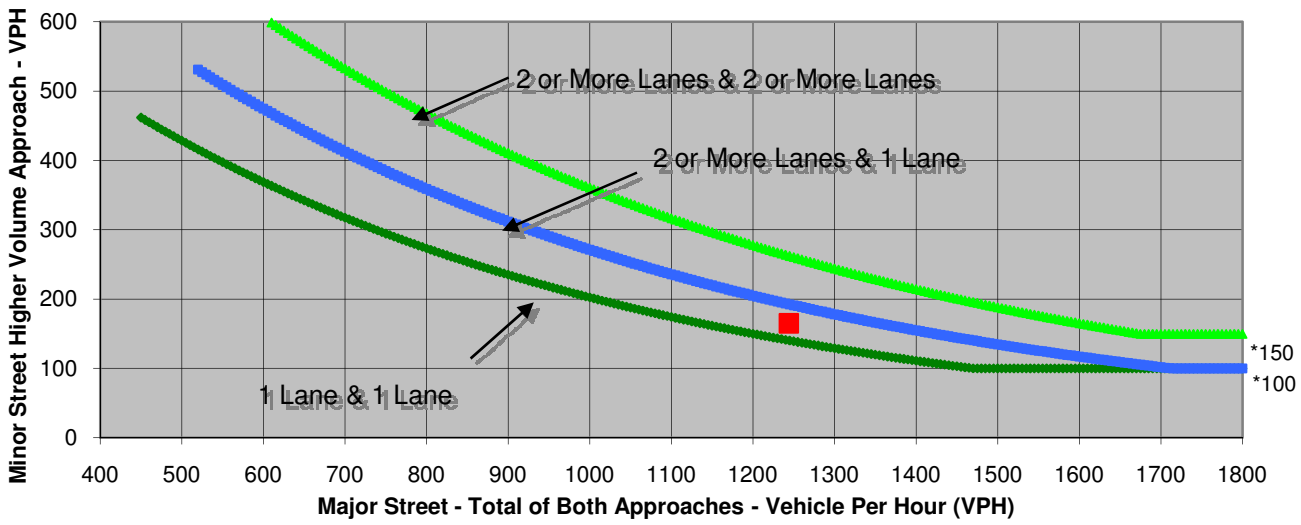
Turn Movement Volumes

	NB	SB	EB	WB
Left	45	0	0	173
Through	0	0	337	602
Right	120	0	132	0
Total	165	0	469	775

Major Street Direction

	North/South
x	East/West

Figure 4C-3
Warrant 3, Peak Hour
(Urban Areas)



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Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2006

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	1	1	YES
Traffic Volume (VPH) *	1,244	165	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR & PEERS
TRANSPORTATION CONSULTANTS

Sheet No	1	of	?

Project	North County Corridor PA_ED
Scenario	Existing Conditions
Peak Hour	PM

Major Street	SR 108
Minor Street	Claus Road

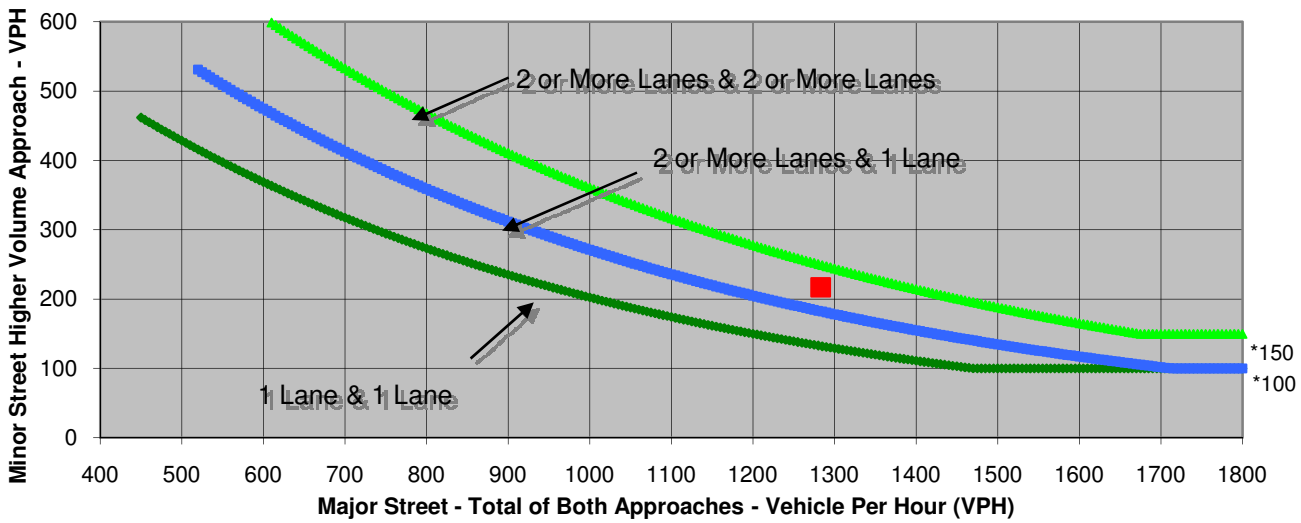
Turn Movement Volumes

	NB	SB	EB	WB
Left	45	0	0	178
Through	0	0	574	395
Right	172	0	136	0
Total	217	0	710	573

Major Street Direction

	North/South
x	East/West

Figure 4C-3
Warrant 3, Peak Hour
(Urban Areas)



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Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2006

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	1	1	YES
Traffic Volume (VPH) *	1,283	217	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR & PEERS
TRANSPORTATION CONSULTANTS

Sheet No	1	of	?
Project	North County Corridor PA_ED		
Scenario	Existing Conditions		
Peak Hour	AM		

Major Street	Patterson Road
Minor Street	Crane Road

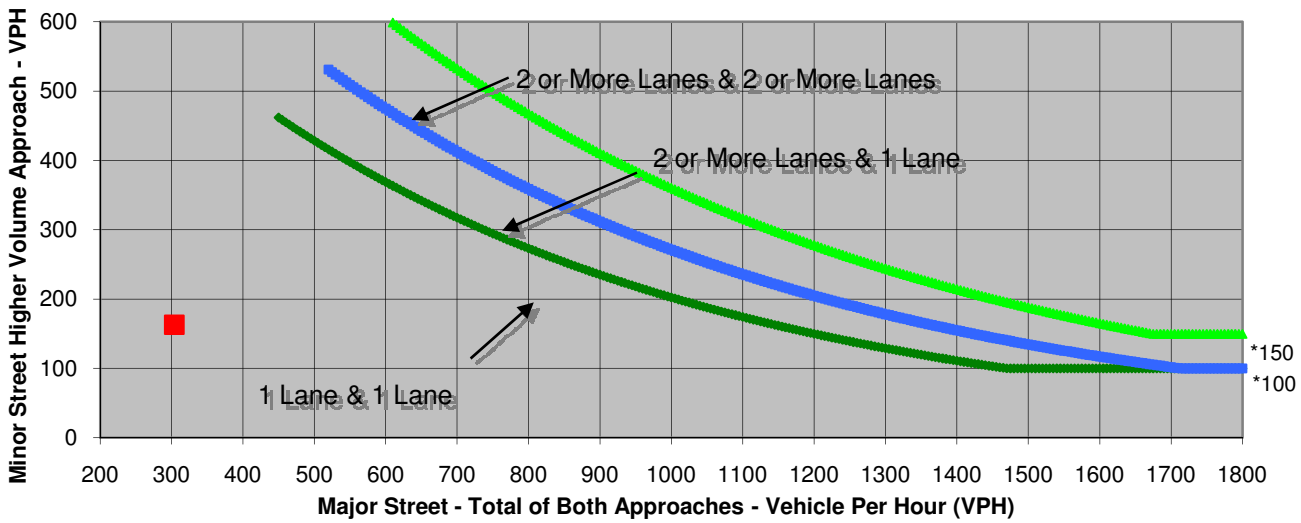
Turn Movement Volumes

	NB	SB	EB	WB
Left	0	31	58	0
Through	0	0	98	129
Right	0	132	0	19
Total	0	163	156	148

Major Street Direction

	North/South
x	East/West

Figure 4C-3
Warrant 3, Peak Hour
(Urban Areas)



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Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2006

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	1	1	NO
Traffic Volume (VPH) *	304	163	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR & PEERS
TRANSPORTATION CONSULTANTS

Sheet No	1	of	?

Project	North County Corridor PA_ED
Scenario	Existing Conditions
Peak Hour	PM

Major Street	Patterson Road
Minor Street	Crane Road

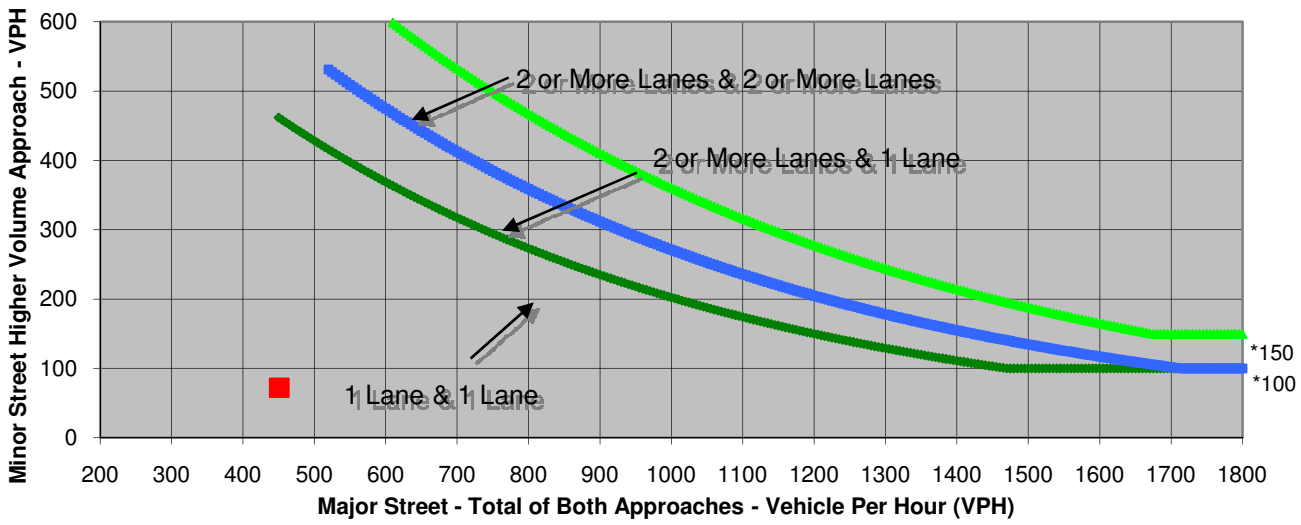
Turn Movement Volumes

	NB	SB	EB	WB
Left	0	6	172	0
Through	0	0	141	123
Right	0	66	0	15
Total	0	72	313	138

Major Street Direction

	North/South
x	East/West

Figure 4C-3
Warrant 3, Peak Hour
(Urban Areas)



* Note: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2006

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	1	1	NO
Traffic Volume (VPH) *	451	72	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	Existing Conditions
Peak Hour	PM

Major Street	NCC Kiernan Avenue
Minor Street	Carver Road

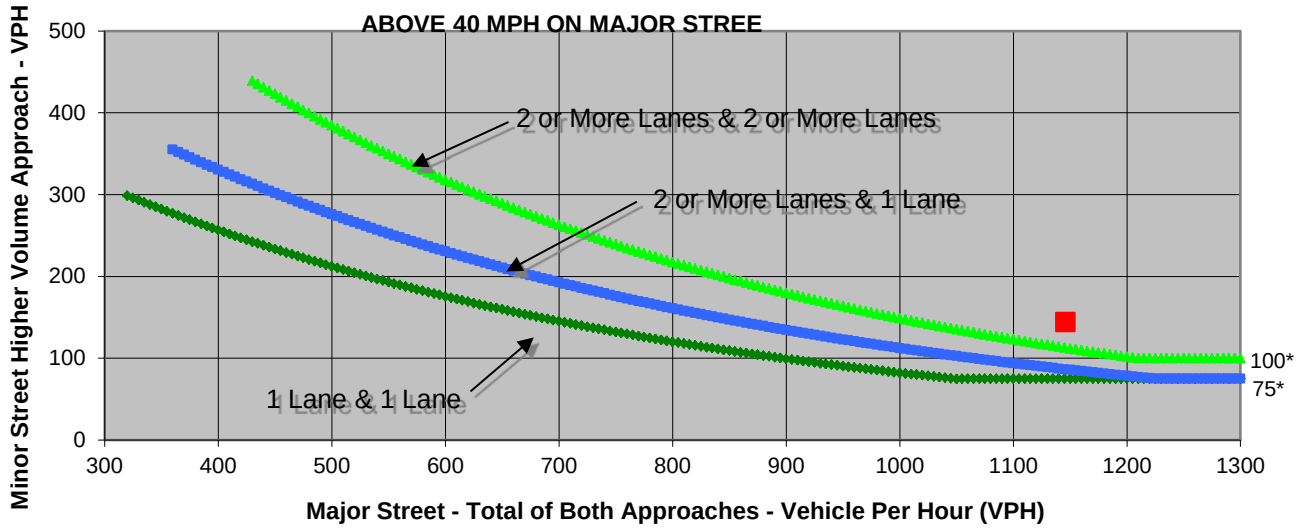
Turn Movement Volumes

	NB	SB	EB	WB
Left	34	4	32	26
Through	85	69	541	463
Right	25	9	76	8
Total	144	82	649	497

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC Kiernan Avenue	Carver Road	
Number of Approach Lanes	**3**	**1**	**YES**
Traffic Volume (VPH) *	**1,146**	**144**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	Existing Conditions
Peak Hour	AM

Major Street	NCC Kiernan Avenue
Minor Street	Carver Road

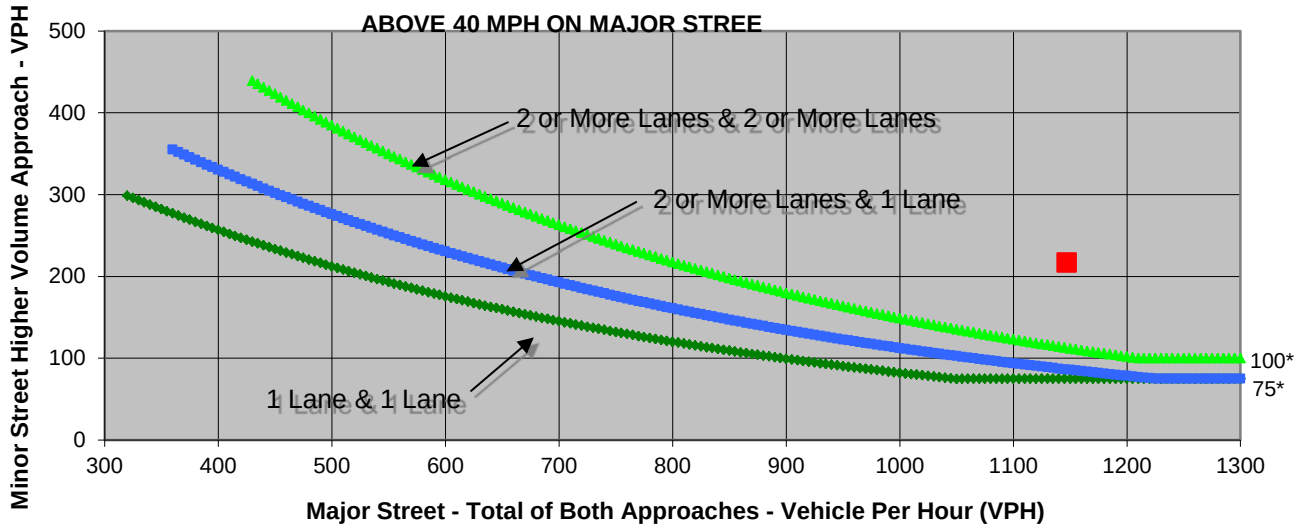
Turn Movement Volumes

	NB	SB	EB	WB
Left	151	7	28	56
Through	53	114	406	534
Right	13	58	93	30
Total	217	179	527	620

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC Kiernan Avenue	Carver Road	
Number of Approach Lanes	**3**	**1**	**YES**
Traffic Volume (VPH) *	**1,147**	**217**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	Existing Conditions
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Claribel Road

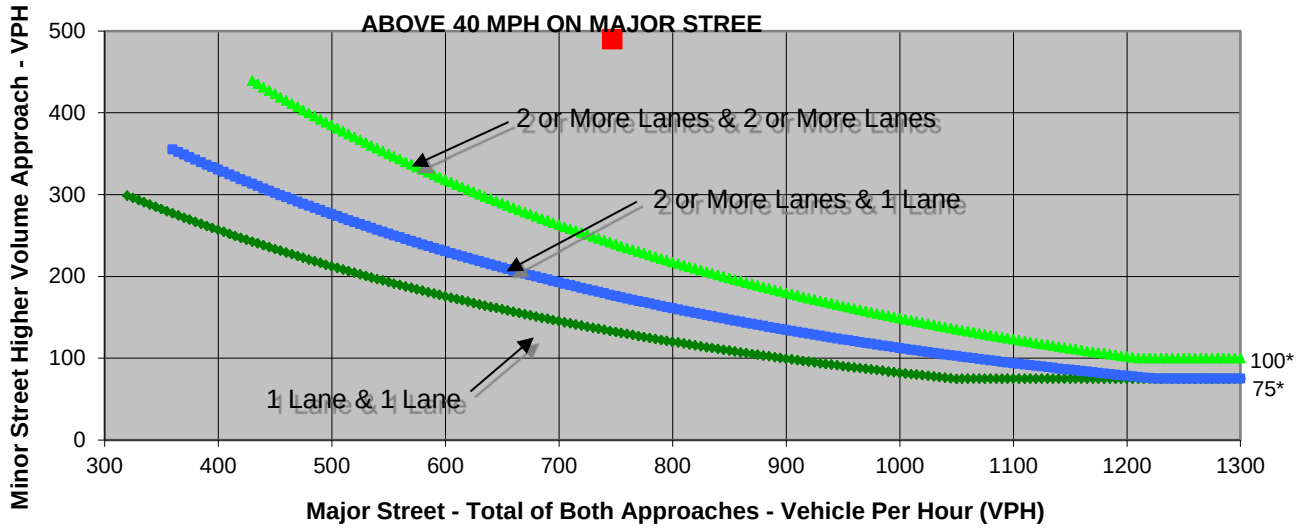
Turn Movement Volumes

	NB	SB	EB	WB
Left	135	40	50	30
Through	291	218	315	267
Right	21	42	125	64
Total	447	300	490	361

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**747**	**490**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	Existing Conditions
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Claribel Road

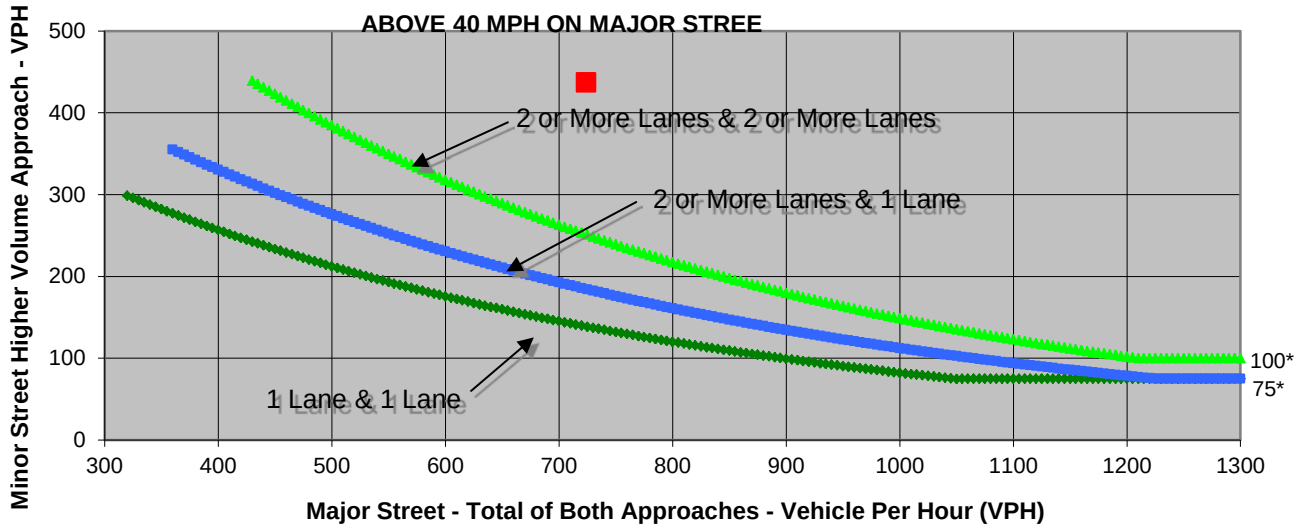
Turn Movement Volumes

	NB	SB	EB	WB
Left	94	52	20	29
Through	220	309	169	362
Right	20	29	137	46
Total	334	390	326	437

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREE



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**724**	**437**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	Existing Conditions
Peak Hour	PM

Major Street	Claribel Road
Minor Street	Bentley Road

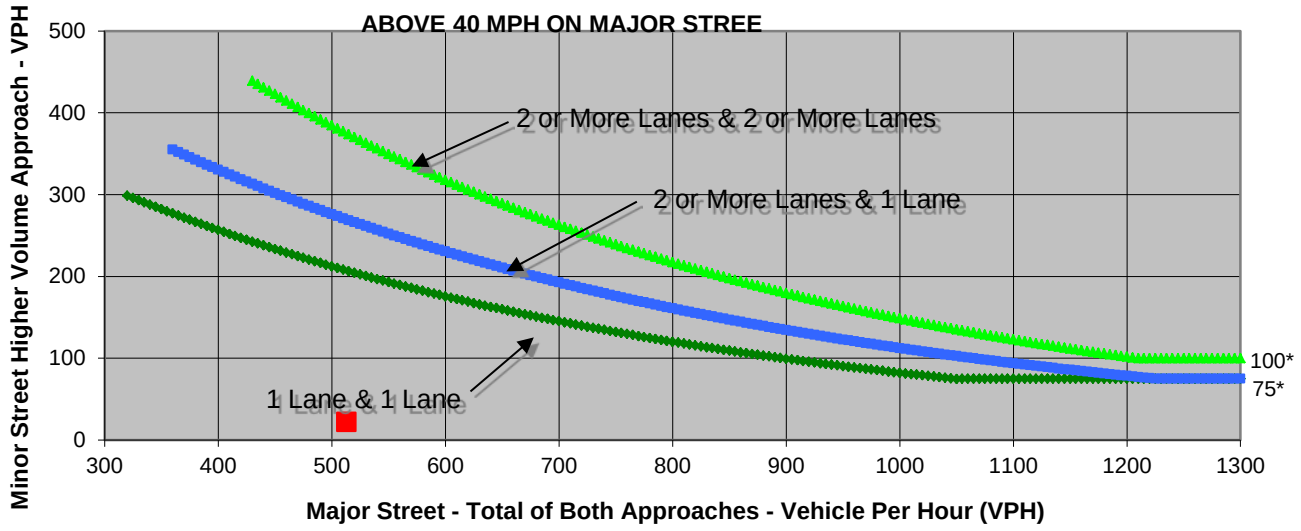
Turn Movement Volumes

	NB	SB	EB	WB
Left	3	3	1	6
Through	17	10	280	210
Right	2	7	9	7
Total	22	20	290	223

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Bentley Road	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**513**	**22**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	Existing Conditions
Peak Hour	AM

Major Street	Claribel Road
Minor Street	Bentley Road

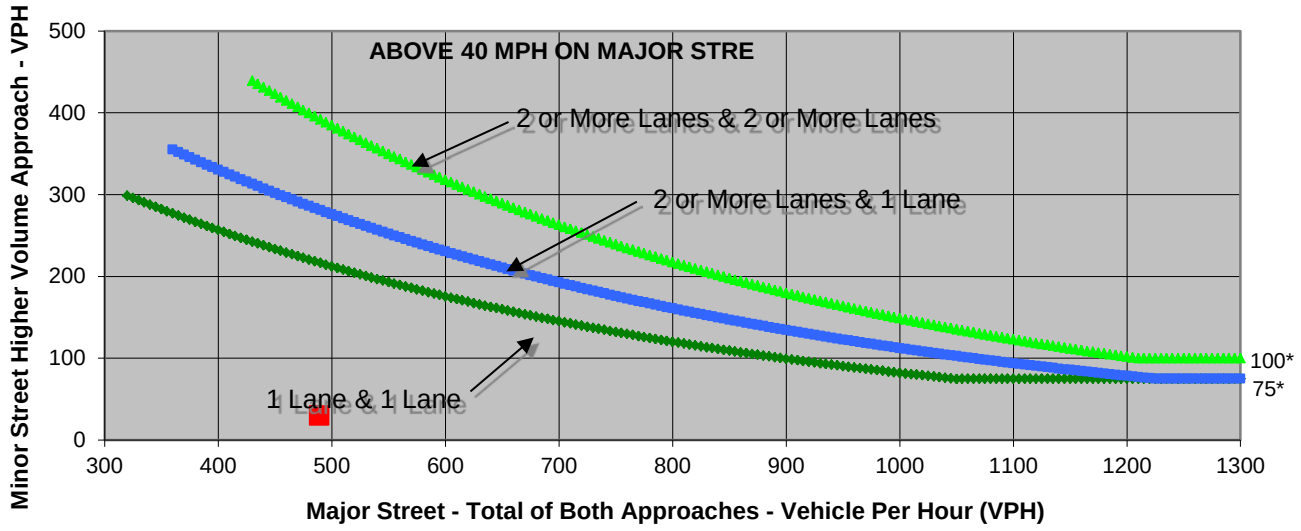
Turn Movement Volumes

	NB	SB	EB	WB
Left	8	2	7	8
Through	13	20	196	274
Right	3	8	3	1
Total	24	30	206	283

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Bentley Road	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**489**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

APPENDIX F:
EXISTING URBAN STREET ANALYSIS CALCULATION WORKSHEETS

Arterial Level of Service: NB McHenry Ave#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	100.9	8.4	109.3	1.40	46.1	A
Patterson Rd	I	50	10.2	29.5	39.7	0.10	9.3	F
Total	I		111.1	37.9	149.0	1.50	36.3	B

Arterial Level of Service: SB McHenry Ave#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	7.6	17.8	0.10	20.7	E
SR 219 (Kiernan Ave)	I	50	100.9	39.0	139.9	1.40	36.0	B
Total	I		111.1	46.6	157.7	1.50	34.3	B

Arterial Level of Service: EB Patterson Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Albers Rd	I	55	69.5	23.2	92.7	1.06	41.2	B
Total	I		69.5	23.2	92.7	1.06	41.2	B

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	25	158.8	40.4	199.2	1.10	19.9	B
Total	IV		158.8	40.4	199.2	1.10	19.9	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	III	30	132.3	21.2	153.5	1.10	25.9	B
Total	III		132.3	21.2	153.5	1.10	25.9	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claribel Rd	II	43	64.7	28.1	92.8	0.77	29.7	B
Total	II		64.7	28.1	92.8	0.77	29.7	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pelandale Ave	II	43	64.7	32.4	97.1	0.77	28.4	B
Total	II		64.7	32.4	97.1	0.77	28.4	B

Arterial Level of Service: EB SR 108 (Patterson Rd)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	62.9	27.0	89.9	0.52	21.0	C
1st St	III	35	130.7	24.9	155.6	1.27	29.4	B
Total	III		193.6	51.9	245.5	1.80	26.3	B

Arterial Level of Service: WB SR 108 (Patterson Rd)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	II	37	136.1	49.9	186.0	1.41	27.3	C
Oakdale Rd	II	35	130.7	12.8	143.5	1.27	31.9	B
Total	II		266.8	62.7	329.5	2.68	29.3	B

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	35	98.1	28.2	126.3	0.95	27.2	B
Total	III		98.1	28.2	126.3	0.95	27.2	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	30	114.4	62.3	176.7	0.95	19.4	C
Total	III		114.4	62.3	176.7	0.95	19.4	C

Arterial Level of Service: EB SR 219 (Kiernan Ave)#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108 (McHenry Ave)	I	55	65.1	34.3	99.4	0.99	36.0	B
Total	I		65.1	34.3	99.4	0.99	36.0	B

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	II	37	136.0	53.5	189.5	1.41	26.7	C
Total	II		136.0	53.5	189.5	1.41	26.7	C

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	145.1	46.0	191.1	1.10	20.8	B
Total	IV		145.1	46.0	191.1	1.10	20.8	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	145.1	16.6	161.7	1.10	24.6	B
Total	IV		145.1	16.6	161.7	1.10	24.6	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	II	40	125.0	8.1	133.1	1.40	37.9	A
Patterson Rd	II	50	10.2	34.4	44.6	0.10	8.3	F
Total	II		135.2	42.5	177.7	1.50	30.4	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	5.8	16.0	0.10	23.1	D
SR 219 (Kiernan Ave)	I	47	106.6	44.1	150.7	1.40	33.5	C
Total	I		116.8	49.9	166.7	1.50	32.5	C

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claribel Rd	II	42	65.1	34.9	100.0	0.77	27.6	C
Total	II		65.1	34.9	100.0	0.77	27.6	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pelandale Ave	II	42	65.1	34.4	99.5	0.77	27.7	C
Total	II		65.1	34.4	99.5	0.77	27.7	C

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	135.2	38.2	173.4	1.31	27.3	B
Total	III		135.2	38.2	173.4	1.31	27.3	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	135.2	16.4	151.6	1.31	31.2	A
Total	III		135.2	16.4	151.6	1.31	31.2	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	25.2	133.0	0.95	25.8	B
Total	III		107.8	25.2	133.0	0.95	25.8	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	51.1	158.9	0.95	21.6	C
Total	III		107.8	51.1	158.9	0.95	21.6	C

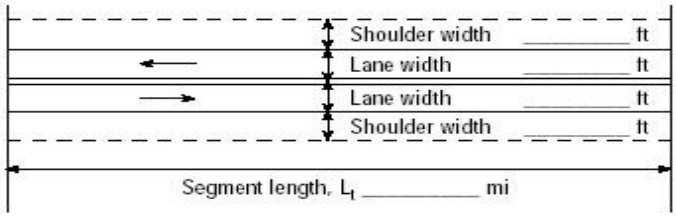
APPENDIX G:
EXISTING HCM TWO-LANE HIGHWAYS ANALYSIS WORKSHEETS

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Analysis direction vol., V_d	706veh/h
Opposing direction vol., V_o	331veh/h
Shoulder width ft	6.0
Lane Width ft	12.0
Segment Length mi	2.0
Peak-hour factor, PHF	0.89
No-passing zone	50%
% Trucks and Buses , P_T	10 %
% Recreational vehicles, P_R	0%
Access points *mi*	7/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.990	0.990
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	801	376

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	2.2 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.3 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	42.0 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.990	0.990
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	801	376
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	64.9	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	24.5	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	81.6	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.29

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1651*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1683*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*78.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*793.3*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.33*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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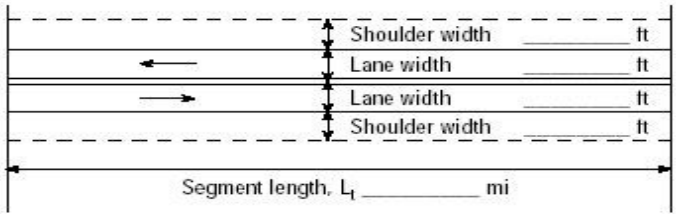
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Analysis direction vol., V_d	777veh/h
Opposing direction vol., V_o	455veh/h
Shoulder width ft	6.0
Lane Width ft	12.0
Segment Length mi	2.7
Peak-hour factor, PHF	0.89
No-passing zone	60%
% Trucks and Buses , P_T	12 %
% Recreational vehicles, P_R	0%
Access points *mi*	8/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	884	517

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.9 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	53.0 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	40.3 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	884	517
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	69.6	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	24.0	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	84.7	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.33

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1661*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*76.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*873.0*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.23*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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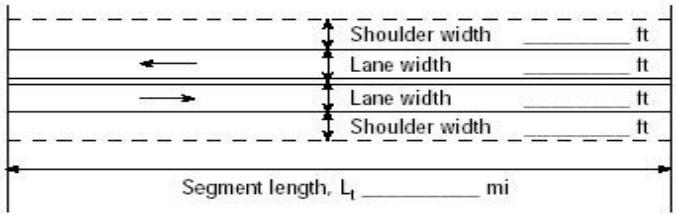
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF	0.89
No-passing zone	40%
% Trucks and Buses , P_T	12 %
% Recreational vehicles, P_R	0%
Access points *mi*	8/mi

Analysis direction vol., V_d	738veh/h
Opposing direction vol., V_o	629veh/h
Shoulder width ft	6.0
Lane Width ft	12.0
Segment Length mi	1.2

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	839	715

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.8 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.0 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	40.1 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	839	715
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	70.3	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	21.2	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	81.7	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.32

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*75.7*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*829.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.20*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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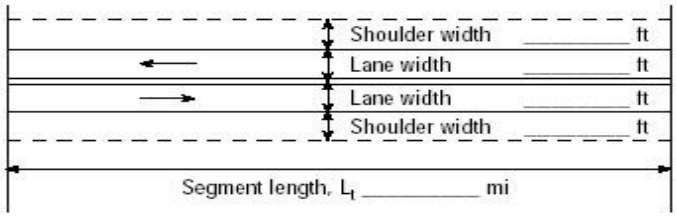
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *75%*

% Trucks and Buses , P_T *15 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *683*veh/h

Opposing direction vol., V_o *436*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*779*	*497*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.1 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*52.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*40.5 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*779*	*497*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*65.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*28.4*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*82.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.29*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1651*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*77.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*767.4*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*7.59*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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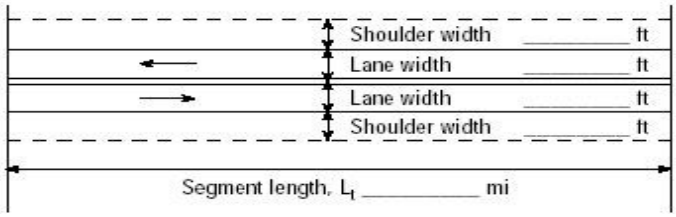
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *20%*

% Trucks and Buses , P_T *18 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *2*/mi

Analysis direction vol., V_d *306*veh/h

Opposing direction vol., V_o *294*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*350*	*336*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*0.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.3 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*54.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*47.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*350*	*336*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*37.2*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*36.0*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*55.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.22*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1586*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1670*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*87.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*343.8*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*8.80*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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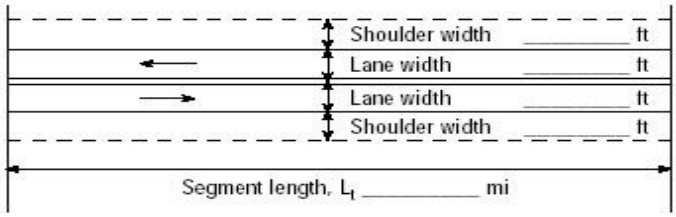
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 50%

% Trucks and Buses , P_T 11 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 761veh/h

Opposing direction vol., V_o 506veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.989	0.989
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	810	539

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.5 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.3 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	41.3 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.989	0.989
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	810	538
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	67.8	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	24.8	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	82.7	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.30

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1663*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*77.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*801.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.75*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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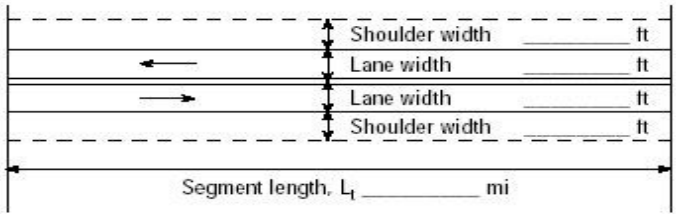
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Analysis direction vol., V_d	752veh/h
Opposing direction vol., V_o	564veh/h
Shoulder width ft	6.0
Lane Width ft	12.0
Segment Length mi	2.7
Peak-hour factor, PHF	0.95
No-passing zone	60%
% Trucks and Buses , P_T	12 %
% Recreational vehicles, P_R	0%
Access points *mi*	8/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	801	601

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.5 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	53.0 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	40.6 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	801	601
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	67.0	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	25.6	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	81.6	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.30

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*76.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*791.6*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.18*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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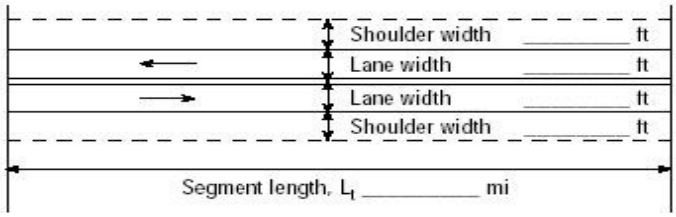
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Analysis direction vol., V_d	822veh/h
Opposing direction vol., V_o	729veh/h
Shoulder width ft	6.0
Lane Width ft	12.0
Segment Length mi	1.2
Peak-hour factor, PHF	0.95
No-passing zone	40%
% Trucks and Buses , P_T	12 %
% Recreational vehicles, P_R	0%
Access points *mi*	8/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	876	777

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.7 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.0 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	39.5 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	876	777
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	72.1	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	20.1	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	82.8	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.34

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*74.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*865.3*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.22*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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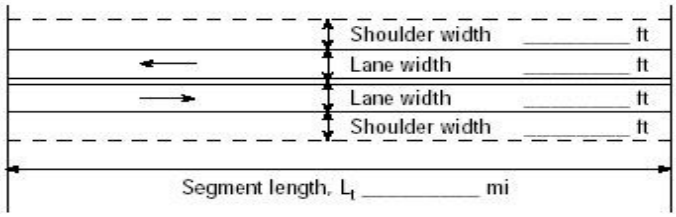
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *75%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *795*veh/h

Opposing direction vol., V_o *733*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*847*	*781*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.2 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*52.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*38.7 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*847*	*781*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*71.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*23.4*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*83.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.35*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*73.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*836.8*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.20*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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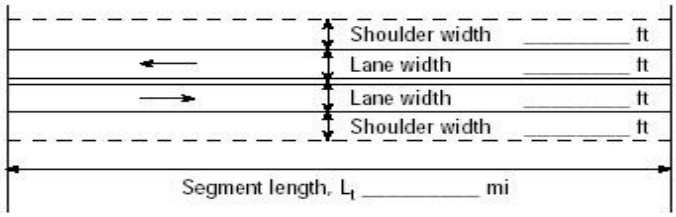
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *20%*

% Trucks and Buses , P_T *10 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *2*/mi

Analysis direction vol., V_d *450*veh/h

Opposing direction vol., V_o *399*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*478*	*424*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.2 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*54.5 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*46.3 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*478*	*424*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*48.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*30.0*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*64.2*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.19*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1651*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*84.9*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*473.7*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.06*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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APPENDIX H:
EXISTING ROADWAY SEGMENT ANALYSIS WORKSHEETS

Table H-1
EXISTING AM PEAK HOUR ROADWAY SEGMENT LEVEL OF SERVICE

ID	Road	Study Limits		Jurisdiction	Volume	Lanes	Capacity	V/C[1]	LOS
		From	To						
1	SR 219 (Kiernan Avenue)	Tully Road	McHenry Avenue	Caltrans	1,081	2	2,000	0.541	D
5	Coffee Road	SR 108	Claribel Road	Stanislaus County	519	2	2,000	0.260	C
6	Coffee Road	Claribel Road	Pelandale Avenue	City of Modesto	649	2	2,000	0.325	C
7	Oakdale Road	SR 108	Claribel Road	City of Riverbank	1,021	4	3,600	0.284	B
8	Oakdale Road	Claribel Road	Pelandale Avenue	City of Modesto	1,147	2	2,000	0.574	D
9	Claribel Road	SR 108	Coffee Road	Stanislaus County	855	2	2,000	0.428	D
10	Claribel Road	Coffee Road	Oakdale Road	Stanislaus County	804	2	2,000	0.402	D
11	Claratina Avenue	McHenry Avenue	Coffee Road	City of Modesto	1,401	2	2,000	0.701	E
12	Claratina Avenue	Coffee Road	Oakdale Road	City of Modesto	626	2	2,000	0.313	C
14	SR 108	1st Street	Claus Road	Caltrans	1,120	2	2,000	0.560	D
15	Patterson Road	SR 108	Langworth Road	City of Riverbank	783	2	2,000	0.392	D
16	Roselle Avenue	Patterson Road	Claribel Road	City of Riverbank	571	2	2,000	0.286	C
17	Roselle Avenue	Claribel Road	Sylvan Avenue	Stanislaus County	636	2	2,000	0.318	C
18	Claus Road	Patterson Road	Claribel Road	City of Riverbank	644	2	2,000	0.322	C
19	Claus Road	Claribel Road	Sylvan Avenue	Stanislaus County	745	2	2,000	0.373	D
20	Claribel Road	Oakdale Road	Claus Road	Stanislaus County	916	2	2,000	0.458	D
22	Langworth Road	SR 108	Claribel Road	Stanislaus County	291	2	2,000	0.146	B
23	Claribel Road	Claus Road	Langworth Road	Stanislaus County	529	2	2,000	0.265	C
25	Patterson Road	Crane Road	Albers Road	Stanislaus County	277	2	2,000	0.139	B
26	Claribel Road	Langworth Road	Oakdale-Waterford Hwy	Stanislaus County	465	2	2,000	0.233	C
28	Yosemite Avenue	SR 108	Patterson Road	Stanislaus County	1,488	2	2,000	0.744	E
29	Albers Road	Patterson Road	Claribel Road	Stanislaus County	1,131	2	2,000	0.566	D
30	Oakdale-Waterford Hwy	Albers Road	Claribel Road	Stanislaus County	280	2	2,000	0.140	B

Notes: Shading indicates unacceptable operations
1 . V/C = Volume-to-Capacity Ratio
Source: Fehr & Peers, 2014.

Table H-2
EXISTING PM PEAK HOUR ROADWAY SEGMENT LEVEL OF SERVICE

ID	Road	Study Limits		Jurisdiction	Volume	Lanes	Capacity	V/C[1]	LOS
		From	To						
1	SR 219 (Kiernan Avenue)	Tully Road	McHenry Avenue	Caltrans	1,288	2	2,000	0.644	E
5	Coffee Road	SR 108	Claribel Road	Stanislaus County	528	2	2,000	0.264	C
6	Coffee Road	Claribel Road	Pelandale Avenue	City of Modesto	852	2	2,000	0.426	D
7	Oakdale Road	SR 108	Claribel Road	City of Riverbank	1,210	4	3,600	0.336	B
8	Oakdale Road	Claribel Road	Pelandale Avenue	City of Modesto	1,411	2	2,000	0.706	E
9	Claribel Road	SR 108	Coffee Road	Stanislaus County	963	2	2,000	0.482	D
10	Claribel Road	Coffee Road	Oakdale Road	Stanislaus County	1,070	2	2,000	0.535	D
11	Claratina Avenue	McHenry Avenue	Coffee Road	City of Modesto	1,672	2	2,000	0.836	E
12	Claratina Avenue	Coffee Road	Oakdale Road	City of Modesto	686	2	2,000	0.343	D
14	SR 108	1st Street	Claus Road	Caltrans	1,230	2	2,000	0.615	E
15	Patterson Road	SR 108	Langworth Road	City of Riverbank	1,093	2	2,000	0.547	D
16	Roselle Avenue	Patterson Road	Claribel Road	City of Riverbank	660	2	2,000	0.330	C
17	Roselle Avenue	Claribel Road	Sylvan Avenue	Stanislaus County	539	2	2,000	0.270	C
18	Claus Road	Patterson Road	Claribel Road	City of Riverbank	721	2	2,000	0.361	D
19	Claus Road	Claribel Road	Sylvan Avenue	Stanislaus County	861	2	2,000	0.431	D
20	Claribel Road	Oakdale Road	Claus Road	Stanislaus County	1,199	2	2,000	0.600	E
22	Langworth Road	SR 108	Claribel Road	Stanislaus County	272	2	2,000	0.136	B
23	Claribel Road	Claus Road	Langworth Road	Stanislaus County	630	2	2,000	0.315	C
25	Patterson Road	Crane Road	Albers Road	Stanislaus County	300	2	2,000	0.150	B
26	Claribel Road	Langworth Road	Oakdale-Waterford Hwy	Stanislaus County	500	2	2,000	0.250	C
28	Yosemite Avenue	SR 108	Patterson Road	Stanislaus County	1,542	2	2,000	0.771	E
29	Albers Road	Patterson Road	Claribel Road	Stanislaus County	1,127	2	2,000	0.564	D
30	Oakdale-Waterford Hwy	Albers Road	Claribel Road	Stanislaus County	293	2	2,000	0.147	B

Notes: Shading indicates unacceptable operations
1 . V/C = Volume-to-Capacity Ratio
Source: Fehr & Peers, 2014.

APPENDIX I:
ACCIDENT HISTORY DATA

California Department of Transportation

OTM22130

Table B - Selective Accident Rate Calculation

Policy controlling the use of Traffic Accident Surveillance and Analysis System (TASAS) - Transportation Systems Network (TSN) Reports

1. TASAS - TSN has officially replaced the TASAS - "Legacy" database.

2. Reports from TSN are to be used and interpreted by the California Department of Transportation (Caltrans) officials or authorized representative.

3. Electronic versions of these reports may be emailed between Caltrans' employees only using the State computer system.

4. The contents of these reports shall be considered confidential and may be privileged pursuant to 23 U.S.C. Section 409, and are for the sole use of the intended recipient(s). Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message. Do not print, copy or forward.

OTM22130

Table B - Selective Accident Rate Calculation

Report Parameters-

Event ID: 3587243

Request Name: STA 108, 1000000263

Ref Date: 11/25/2013

Request- & Line	LOC	DIR	LSC	Route/Location	Begin Date	End Date	Rate Type	Out Seq	Override Rates Rate	Override Rates Inj%	Override Rates Fat%	Override ADT Main	Override ADT Cross	Req. Type	Com- bine?	Excl Ramp?
2 1	H	T	I	10 STA 108 R022.438 R - 10 STA 108 R022.921 R	01-JAN-09	31-DEC-11	N	L						N	Y	Y
2 2	H	T	I	10 STA 108 R022.438 L - 10 STA 108 R022.789 L	01-JAN-09	31-DEC-11	N	L						N	Y	Y
2 3	H	T	I	10 STA 108 L022.836 - 10 STA 108 027.611	01-JAN-09	31-DEC-11	N	L						N	Y	Y

Event Log:

Job id is : 529219 Accidents Table B Request STA 108, 1000000263 Submitted by T10KLE
10 STA 108 R 22.438R - 10 STA 108 R 22.921R 01/01/2009 TO 12/31/2011
10 STA 108 R 22.438L - 10 STA 108 R 22.789L 01/01/2009 TO 12/31/2011
10 STA 108 L 22.836 - 10 STA 108 27.611 01/01/2009 TO 12/31/2011

California Department of Transportation
Table B - Selective Accident Rate Calculation

Location Description				Rate Group (RUS)	No. of Accidents / Significance Tot	Fat	Inj	F+I	Multi Veh	Wet	Dark	Pers Kld Inj	ADT Main X-St	Total MV+ or MVM	Accident Rates Actual Fat	F+I	Average Tot	Fat	F+I	Tot
Combined				**5.609 MI** H	441	4	263	267	376	35	124	4	26.3	161.27	0.025	1.66	2.73	0.010	.91	1.71
0002-	2009-01-01	2011-12-31	*36 mo.*	NA	**H99**	**H90**	**H99**	**H99**		**H99**	**H95**	404								

Accident Rates expressed as: **# of accidents / Million vehicle miles**

+ denotes that **Million Vehicles** (MV) used in accident rates instead (for intersections and ramps).

For Ramps RUS only considers R(Rural) U(Urban)

California Department of Transportation

OTM22130

Table B - Selective Accident Rate Calculation

Policy controlling the use of Traffic Accident Surveillance and Analysis System (TASAS) - Transportation Systems Network (TSN) Reports

1. TASAS - TSN has officially replaced the TASAS - "Legacy" database.

2. Reports from TSN are to be used and interpreted by the California Department of Transportation (Caltrans) officials or authorized representative.

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OTM22130

Table B - Selective Accident Rate Calculation

Report Parameters-

Event ID: 3587240

Request Name: STA 108, 1000000263

Ref Date: 11/25/2013

Request- & Line	LOC	DIR	LSC	Route/Location	Begin Date	End Date	Rate Type	Out Seq	Override Rates Rate	Override Rates Inj%	Override Rates Fat%	Override ADT Main	Override ADT Cross	Req. Type	Com- bine?	Excl Ramp?
1 1	H	T	I	10 STA 108 027.617 - 10 STA 108 038.236	01-JAN-09	31-DEC-11	N	L						N	N	Y

Event Log:

Job id is : 529217 Accidents Table B Request STA 108, 1000000263 Submitted by T10KLE
10 STA 108 27.617 - 10 STA 108 38.236 01/01/2009 TO 12/31/2011

California Department of Transportation
Table B - Selective Accident Rate Calculation

Location Description	Rate Group (RUS)	No. of Accidents / Significance Tot	Fat	Inj	F+I	Multi Veh	Wet	Dark	Pers Kld Inj	ADT Main X-St	Total **MV+** or **MVM**	Accident Rates Actual Fat	F+I	Tot	Average Fat	F+I	Tot
10 STA 108 027.617 - 10 STA 108 038.235	**10.607 MI** H	381	5	158	163	333	40	95	5	18.4	213.71	0.023	.76	1.78	0.017	.51	1.26
0001-0001 2009-01-01 2011-12-31 *36 mo.*	NA	**H99**		**H99**	**H99**		**H99**		251								

Accident Rates expressed as: **# of accidents / Million vehicle miles**

+ denotes that **Million Vehicles** (MV) used in accident rates instead (for intersections and ramps).

For Ramps RUS only considers R(Rural) U(Urban)

California Department of Transportation

OTM22130

Table B - Selective Accident Rate Calculation

Policy controlling the use of Traffic Accident Surveillance and Analysis System (TASAS) - Transportation Systems Network (TSN) Reports

1. TASAS - TSN has officially replaced the TASAS - "Legacy" database.

2. Reports from TSN are to be used and interpreted by the California Department of Transportation (Caltrans) officials or authorized representative.

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OTM22130

Table B - Selective Accident Rate Calculation

Report Parameters-

Event ID: 3587244

Request Name: STA 120, 1000000263

Ref Date: 11/25/2013

Request- & Line	LOC	DIR	LSC	Route/Location	Begin Date	End Date	Rate Type	Out Seq	Override Rates Rate	Override Rates Inj%	Override Rates Fat%	Override ADT Main	Override ADT Cross	Req. Type	Com- bine?	Excl Ramp?
1 1	H	T	I	10 STA 120 005.116 - 10 STA 120 010.901	01-JAN-09	31-DEC-11	N	L						N	N	Y

Event Log:

Job id is : 529220 Accidents Table B Request STA 120, 1000000263 Submitted by T10KLE
10 STA 120 5.116 - 10 STA 120 10.901 01/01/2009 TO 12/31/2011

California Department of Transportation
Table B - Selective Accident Rate Calculation

Location Description	Rate Group (RUS)	No. of Accidents / Significance Tot	Fat	Inj	F+I	Multi Veh	Wet	Dark	Pers Kld Inj	ADT Main X-St	Total MV+ or MVM	Accident Rates Actual Fat	F+I	Average Tot	Fat	F+I	Tot
10 STA 120 005.116 - 10 STA 120 010.900	**5.785 MI** H	183	1	75	76	142	17	45	2	18.2	115.50	0.009	.66	1.58	0.016	.42	.97
0001-0001 2009-01-01 2011-12-31 *36 mo.*	NA	**H99**		**H99**	**H99**		**H99**		112								

Accident Rates expressed as: **# of accidents / Million vehicle miles**

+ denotes that **Million Vehicles** (MV) used in accident rates instead (for intersections and ramps).

For Ramps RUS only considers R(Rural) U(Urban)

California Department of Transportation

OTM22130

Table B - Selective Accident Rate Calculation

Policy controlling the use of Traffic Accident Surveillance and Analysis System (TASAS) - Transportation Systems Network (TSN) Reports

1. TASAS - TSN has officially replaced the TASAS - "Legacy" database.

2. Reports from TSN are to be used and interpreted by the California Department of Transportation (Caltrans) officials or authorized representative.

3. Electronic versions of these reports may be emailed between Caltrans' employees only using the State computer system.

4. The contents of these reports shall be considered confidential and may be privileged pursuant to 23 U.S.C. Section 409, and are for the sole use of the intended recipient(s). Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message. Do not print, copy or forward.

OTM22130

Table B - Selective Accident Rate Calculation

Report Parameters-

Event ID: 3587245

Request Name: STA 219, 1000000263

Ref Date: 11/25/2013

Request- & Line	LOC	DIR	LSC	Route/Location	Begin Date	End Date	Rate Type	Out Seq	Override Rates Rate	Override Rates Inj%	Override Rates Fat%	Override ADT Main	Override ADT Cross	Req. Type	Com- bine?	Excl Ramp?
1 1	H	T	I	10 STA 219 000.116 - 10 STA 219 004.858	01-JAN-09	31-DEC-11	N	L						N	N	Y

Event Log:

Job id is : 529221 Accidents Table B Request STA 219, 1000000263 Submitted by T10KLE
10 STA 219 .116 - 10 STA 219 4.858 01/01/2009 TO 12/31/2011

California Department of Transportation
Table B - Selective Accident Rate Calculation

Location Description	Rate Group (RUS)	No. of Accidents / Significance Tot	Fat	Inj	F+I	Multi Veh	Wet	Dark	Pers Kld Inj	ADT Main X-St	Total **MV+** or **MVM**	Accident Rates Actual Fat	F+I	Tot	Average Fat	F+I	Tot
10 STA 219 000.116 - 10 STA 219 004.857	**4.742 MI** H	170	0	61	61	160	23	47	0	21.0	109.22	0.000	.56	1.56	0.012	.47	1.15
0001-0001 2009-01-01 2011-12-31 *36 mo.*	S	**H99**		**H90**			**H99**		92								

Accident Rates expressed as: **# of accidents / Million vehicle miles**

+ denotes that **Million Vehicles** (MV) used in accident rates instead (for intersections and ramps).

For Ramps RUS only considers R(Rural) U(Urban)

APPENDIX J:
FORECAST MEMOS AND APPROVAL LETTER

DEPARTMENT OF TRANSPORTATION
P.O. BOX 2048 STOCKTON, CA 95201
(1976 E. CHARTER WAY/1976 E. DR. MARTIN
LUTHER KING JR. BLVD. 95205)
PHONE: (209) 948-7071
FAX: (209) 948-3670
TTY: 711

Flex your power!
Be energy efficient!

March 24, 2014

Mr. Eddie Barrios, P.E.
Fehr & Peers
100 Pringle Avenue, Suite 600
Walnut Creek, CA 94596

File: EA 10-0S800K
North County Corridor

Dear Mr. Barrios,

We have completed our review of the revised forecasting/modeling work done for the future years for the design alternative that includes the connection at Roselle Avenue. The forecasting/modeling work done for the future years for this phase of the project appears to be reasonable. Therefore, D10 Travel Forecasting is expressing its approval for the forecasting/modeling work for this phase of the project. You may continue with the operational/traffic analysis work for the future years for this phase of the project.

The assumptions noted in the previous forecasting approval letter still apply to this project.

If you have any questions, please contact me at (209) 948-7071 or Homer Zarzuela of my staff at (209) 948-7871.

Sincerely,

(HOMER B. ZARZUELA)

FOR Perfecto Robledo, P.E.
Office Chief
District 10 Travel Forecasting

Cc: Joy Pinne, Project Manager, District 10 Program Project Management
Vu Nguyen, Office Chief, District 10 Traffic Operations
Jose Silva, Drake Haglan & Associates

FEHR PEERS

TECHNICAL MEMORANDUM

Date: July 12, 2013

To: Paul Engstrom, Jacobs Engineering

From: Eddie Barrios and Francisco Martin, Fehr & Peers

Subject: ***Final Year 2022, 2032 and 2042 Traffic Demand Forecasts for North County Corridor PA/ED***

WC08-2575

The proposed North County Corridor (Project) is a new four- to six-lane east-west expressway in northern Stanislaus County, CA. There are currently four project alternatives under consideration (1A, 1B, 2A, and 2B). The preliminary route layouts for the four project alternatives are presented in the **Technical Appendix**.

This technical memorandum presents the future year traffic demand forecasts for the following scenarios:[1]

- Year 2022 No Project
- Year 2022 With Project Alternative 1A
- Year 2022 With Project Alternative 1B
- Year 2022 With Project Alternative 2A
- Year 2022 With Project Alternative 2B
- Year 2032 No Project
- Year 2032 With Project Alternative 1A
- Year 2032 With Project Alternative 1B
- Year 2032 With Project Alternative 2A
- Year 2032 With Project Alternative 2B
- Year 2042 No Project
- Year 2042 With Project Alternative 1A
- Year 2042 With Project Alternative 1B
- Year 2042 With Project Alternative 2A
- Year 2042 With Project Alternative 2B

The StanCOG Travel Demand Model was used to develop these forecasts. A detailed description of the model calibration/validation process was presented in the technical memorandum entitled *Final Travel Demand Forecasting (TDF) Model Calibration and Validation for the North County Corridor PA/ED* (March 16, 2011), which was reviewed and accepted by the local agencies and Caltrans in February 2011.

This memorandum apresents the method used to estimate the total number of households and jobs in Stanislaus County through year 2042 based on the StanCOG 2011 Regional Transportation Plan (RTP) and General Plan land use estimates for each of the jurisdictions

[1] Year 2032 traffic forecasts were developed through linear interpolation of Year 2022 and Year 2042 forecasts.

within Stanislaus County.[2] These land use estimates are intended to be used for evaluating the Project. This memorandum also documents the roadway network assumptions to be used to develop future year traffic volume projections.

STUDY AREA

The project will be located within unincorporated areas of Stanislaus County. **Figure 1** illustrates the project study area. This study evaluated the following 35 roadway segments:

1. Kiernan Avenue between Carver Road and McHenry Avenue
2. SR 108 between Ladd Road and Kiernan Avenue
3. SR 108 between Kiernan Avenue and Pelandale Avenue
4. SR 108 between McHenry Avenue and Oakdale Road
5. Coffee Road between SR 108 and Claribel Road
6. Coffee Road between Claribel Road and Pelandale Avenue
7. Oakdale Road between SR 108 and Claribel Road
8. Oakdale Road between Claribel Road and Pelandale Avenue
9. Claribel Road between SR 108 and Coffee Road
10. Claribel Road between Coffee Road and Oakdale Road
11. Claratina Avenue between McHenry Avenue and Coffee Road
12. Claratina Avenue between Coffee Road and Oakdale Road.
13. SR 108 between Oakdale Road and 1st Street
14. SR 108 between 1st Street and Claus Road
15. Patterson Pass between SR 108 and Langworth Road
16. Roselle Avenue between Patterson Road and Claribel Road
17. Roselle Avenue between Claribel Road and Sylvan Avenue
18. Claus Road between Patterson Road and Claribel Road
19. Claus Road between Claribel Road and Sylvan Avenue
20. Claribel Road between Oakdale Road and Claus Road
21. SR 108 between Claus Road and Crane Road
22. Langworth Road between SR 108 and Claribel Road
23. Claribel Road between Claus Road and Langworth Road
24. SR 108 between Crane Road and Oak Avenue
25. Patterson Road between Crane Road and Albers
26. Claribel Road between Langworth Road and Oakdale Waterford Highway
27. SR 108 between Oak Avenue and SR 120
28. Yosemite Avenue between SR 108 and Patterson Road
29. Albers Road between Patterson Road and Claribel Road
30. Oakdale Waterford Highway between Patterson Road and Claribel Road
31. SR 120 between Yosemite Avenue and Maag Avenue
32. SR 120 between Maag Avenue and Wamble Road
33. SR 120 between Wamble Road and Lancaster Road
34. Kiernan Avenue between SR 99 and Dale Road
35. Kiernan Avenue between Dale Road and Carver Road

[2] The 2014 RTP is currently under development by StanCOG and is anticipated to be completed and approved by the spring of 2014.

In addition, this study evaluated the following 28 intersections:

1. Kiernan Avenue/Tully Road
2. McHenry Avenue/Ladd Road
3. SR 108/Kiernan Avenue
4. SR 108/Pelandale Avenue
5. Coffee Road/Claribel Road
6. Coffee Road/Claratina Avenue
7. Oakdale Road/SR 108
8. Oakdale Road/Claribel Road
9. Oakdale Road/Claratina Avenue
10. SR 108/1st Street
11. SR 108/Claus Road
12. Claribel Road/Claus Road
13. Patterson Road/Crane Road
14. SR 108/Oak Avenue
15. SR 108/SR 120
16. Patterson Road/Albers Road
17. SR 108/Maag Avenue
18. McHenry Avenue/SR 108
19. Patterson Road/SR 108
20. Claribel Road/Roselle Road
21. Kiernan Avenue/SR 99 SB Ramps
22. Kiernan Avenue/SR 99 NB Ramps
23. Kiernan Avenue/Sisk Road
24. Kiernan Avenue/Stoddard Road
25. Kiernan Avenue/Dale Road
26. Kiernan Avenue/Carver Road
27. Claribel Road/Bentley Road
28. Claribel Road/Albers Road

The study area was developed based on direct input from Caltrans.

DATA COLLECTION

Extensive data collection efforts were undertaken in August and September of 2008 and 2010 to determine existing roadway average daily and peak hour traffic volumes, truck percentages, and queues on roadways within the study area boundaries. In addition, intersection counts were collected in October 2012 at intersection 20 through 28 to supplement the 2008 and 2010 data.

Forty-eight hour tube classification counts were previously collected in September and October 2008 for many roadways in the study area; the truck volumes are primarily based on the 48-hour tube count data. Daily traffic volumes were also collected in early November 2010 at several locations to identify the changes in volumes that could have resulted from recent land use/traffic circulation changes (e.g. Kiernan Avenue widening, Claratina Avenue roadway extension and construction of Gregori High School). The daily traffic counts indicate that the highest volumes generally occur in the morning between 7:00 AM and 9:00 AM and in the evening between 4:00 PM and 6:00 PM in the study area. Congestion at the intersections was observed to be highest during these periods.

Intersection counts were conducted during the morning (7:00 AM to 9:00 AM) and evening (4:00 PM to 6:00 PM) peak periods at 19 of the study intersections (#1 - #19) during a typical weekday (Tuesday through Thursday) in August and September of 2010, and at 9 intersections (#20 - #28) in October 2012. Peak hour turning movement volumes for the study intersections are shown on **Figure 2**. The peak hour volumes presented reflect minor adjustments to the raw traffic counts to ensure balanced vehicle trips between adjacent intersections. Peak hour roadway volumes are shown on **Figures 3 and 4**; average weekday daily traffic volumes are shown on **Figure 5**. The raw traffic count data is presented in the **Technical Appendix**.

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FUTURE YEAR MODEL DEVELOPMENT

The sections below describe the roadway network and land use assumptions used to develop future year traffic volume projections. These assumptions were reviewed and approved by the local agencies and Caltrans in February 2013.

NCC Roadway Network Assumptions

The opening year for the NCC project is anticipated to be year 2022, while the design year is 2042. The following network assumptions were made within the travel demand model.

Year 2022 No Project

The 2011 StanCOG RTP identifies Tier I fiscally constrained roadway improvement projects anticipated to be in place by year 2035. The **Technical Appendix** presents the Tier 1 project lists for both mainline roadways/highways and regional roads provided in the RTP that will be assumed under No Project conditions. The Tier 1 list also identifies the year that each infrastructure improvement is anticipated to be open to traffic. Only those projects anticipated being in place by year 2022 were assumed in this scenario.

Year 2022 With Project

The roadway network improvements assumed under No Project conditions were also assumed under With Project conditions. In addition, the Project was assumed to be in place. The following four project alternatives were analyzed:

- Alternative 1A
- Alternative 1B
- Alternative 2A
- Alternative 2B

In general, the proposed NCC facility would consist of six-lanes between Tully Road and Oakdale Road, and four-lanes east of Oakdale Road. The following is a list of interchanges and at-grade intersections proposed for each project alternative:

Alternative 1A	**Alternative 1B**	**Alternative 2A**	**Alternative 2B**
Interchanges: • McHenry Avenue • Oakdale Road At-Grade Intersections: • Coffee Road • Claus Road • Crane Road • Albers Road • Stearns Road • SR 108/120	Interchanges: • McHenry Avenue • Oakdale Road At-Grade Intersections: • Coffee Road • Claus Road • Crane Road • Albers Road • Stearns Road • SR 108/120	Interchanges: • McHenry Avenue • Oakdale Road At-Grade Intersections: • Coffee Road • Claus Road • Bentley Road • Albers Road • Stearns Road • SR 108/120	Interchanges: • McHenry Avenue • Oakdale Road At-Grade Intersections: • Coffee Road • Claus Road • Bentley Road • Albers Road • Smith Road • SR 108/120

Year 2042 No Project

The 2011 StanCOG RTP identifies Tier I fiscally constrained roadway improvement projects anticipated to be in place by year 2035. Although some projects identified in the Tier II list of the RTP could be reasonably assumed to be constructed during the period of 2035 to 2042 it was assumed that the traffic analysis for NCC only consider the projects identified in the Tier I list.

Year 2042 With Project

The roadway network improvements assumed under No Project conditions were also assumed under With Project conditions. In addition, the same Project configurations assumed in year 2022 for the project were assumed in year 2042.

StanCOG 2011 RTP Land Use Estimates

The county-wide land use estimates from the StanCOG 2011 RTP are presented in **Table 1**.

TABLE 1
LAND USE FORECASTS FOR STANISLAUS COUNTY[1]

	Year 2020	Year 2022[3]	Year 2040	Year 2042[4]
Population	632,623	650,651	812,907	830,935
Households[2]	204,072	209,888	262,228	268,044
Employment	211,745	217,292	267,212	272,759

Notes:
1. Based on information provided in the 2011 StanCOG RTP and Fehr & Peers, 2013.
2. Based on assumed person to household ratio of 3.1.
3. Based on linear interpolation of year 2020 and 2040 data.
4. StanCOG provided land use estimates through year 2040. Therefore, year 2042 land use estimates have been calculated using linear extrapolation from year 2020 and year 2040 data.

General Plan Land Use Estimates

The General Plan for each jurisdiction within Stanislaus County was reviewed to determine land use estimates for each jurisdiction. The residential and employment land use projections at buildout for each jurisdiction are presented in **Table 2**.

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TABLE 2 BUILDOUT RESIDENTIAL AND EMPLOYMENT PROJECTIONS BASED ON GENERAL PLANS[1]		
Jurisdiction	**Number of Households**	**Number of Jobs**
Ceres	25,309	26,322
Hughson	4,683	4,837
Modesto	177,770	237,240
Salida Community Plan Area	8,987	29,736
Newman	13,442	9,449
Oakdale	15,563	31,849
Patterson	25,589	28,826
Riverbank[2]	17,147	11,163
Turlock	42,721	79,150
Waterford	8,127	2,403
Stanislaus County (Unincorporated Areas not listed above)	37,961	53,718
Totals	***377,299***	***514,693***

Notes:
1. These estimates are based on the most current available information from the General Plans for each jurisdiction.
2. The employment projections for Riverbank include redevelopment of the Army Ammunition Plant, which was not included in the 2005 General Plan.

Land Use Estimates for Use in North County Corridor Project

The land use information presented in **Table 1** reflects the regional economic and population projections prepared and adopted by StanCOG for regional planning purposes. For the North County Corridor transportation study, it's necessary to remain consistent with these regional countywide land use projections presented in **Table 1**. While the local General Plan projections shown in **Table 2** will not be used directly in the NCC project evaluation, they do provide important information about how each jurisdiction is anticipated to grow over time. In order to make use of this information, we prepared a set of jurisdiction-specific land use estimates for each of the horizon years in the NCC project, as shown in **Table 3**. The projections in **Table 3** were prepared by identifying each jurisdiction's proportional share of growth based on its General Plan relative to the countywide growth based on General Plans and applying that proportion to the actual estimated countywide growth from the StanCOG land use projections (see Equation 1 below). In this way, we can maintain consistency with the regional totals, and still reflect the future development patterns envisioned in the local General Plans.

Equation 1:

$$\text{Jurisdiction Future Year Land Use} = \frac{(\text{Jurisdiction GP} - \text{Jurisdiction Base})}{(\text{Countywide GP} - \text{Countywide Base})} \times (\text{StanCOG County Control Total} - \text{Countywide Base}) + \text{Jurisdiction Base}$$

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TABLE 3 LAND USE PROJECTIONS FOR NCC PROJECT								
Jurisdiction	**Year 2020**		**Year 2022**		**Year 2040**		**Year 2042**	
	HH	**Jobs**	**HH**	**Jobs**	**HH**	**Jobs**	**HH**	**Jobs**
Ceres	14,589	10,461	14,949	10,751	18,188	13,365	18,548	13,655
Hughson	2,337	1,197	2,416	1,263	3,125	1,863	3,204	1,930
Modesto	89,548	96,694	92,510	99,267	119,166	122,426	122,128	125,000
Salida Community Plan Area	4,756	5,563	4,898	6,005	6,176	9,989	6,318	10,431
Newman	4,683	1,959	4,977	2,096	7,623	3,330	7,917	3,467
Oakdale	8,739	8,847	8,968	9,268	11,030	13,058	11,259	13,480
Patterson	8,516	5,108	9,089	5,542	14,248	9,450	14,821	9,885
Riverbank	8,129	4,332	8,432	4,457	11,156	5,583	11,459	5,708
Turlock	26,096	30,072	26,654	30,971	31,677	39,058	32,236	39,957
Waterford	3,321	687	3,483	718	4,935	1,001	5,096	1,032
Stanislaus County (Unincorporated Areas not listed above)	33,358	46,827	33,513	46,953	34,904	48,089	35,058	48,215
Totals	***204,072***	***211,745***	***209,888***	***217,292***	***262,228***	***267,212***	***268,044***	***272,759***

Source: Fehr & Peers, 2013.

TRAFFIC FORECASTS

As with most model-based forecasting procedures, model demand volumes were adjusted to account for differences between base year model volumes and the recent traffic counts. The process of developing forecasts from a model follows a series of commonly-used quantitative steps, in which the amount of growth projected by the model is added to the existing counts in order to estimate future year conditions. Only in unique circumstances, such as the evaluation of new interchanges that do not currently exist, is it advisable to use “raw” (i.e., unadjusted) model volumes directly. In most cases, the preferred technique is to account for the fact that the base year model does not exactly match the base year count and adjust the future forecasts accordingly.

The specific steps used to develop traffic forecasts from the Model under the various alternatives were generally the same. Below is an example of how the forecasts were developed for one of the analysis scenarios (Year 2042 No Project conditions).

Year 2042 AM and PM peak hour turning movement forecasts for the study intersections were developed using the following three-step process.

- **Step 1** - The Model was executed with the 2042 roadway network assumptions and 2042 land use assumptions to determine the "raw" (i.e., unadjusted) peak hour demand forecasts for the study intersections.

- **Step 2** - The adjusted peak hour turning movement forecasts at the study intersections were developed using the "delta" method to account for model deviation according to the following formula:

  Year 2042 Adjusted Turning Movement Forecast =
  (Year 2042 Model Turning Movement Forecast – Year 2010 Model Turning Movement Forecast)
  + Existing Turning Movement Volume

- **Step 3** – Check for reasonableness and make adjustments as necessary (e.g., in the case where the resulting volumes are lower than existing counts).

Peak hour roadway volumes were assumed to be consistent with the approach and departure volumes at the study intersections. Daily roadway segment demand forecasts were developed using a similar three-step process as listed above.

The process used to develop forecasts for other year 2042 scenarios is similar to the process presented above except that the roadway network and/or land use assumptions are modified depending on the specific scenario. For example, to develop year 2042 with Project Alternative 1A forecasts the land use assumptions reflect year 2042 and the roadway network assumptions reflect No Project conditions plus Alternative 1A. Year 2022 traffic forecasts were developed using a combination of the three step process listed above and linear interpolation (between existing counts and year 2042 forecasts). Year 2032 traffic forecasts were developed by applying linear interpolation between year 2022 and year 2042 forecasts.

The traffic forecasts are presented on the following figures:

Figures	Traffic Forecasts
6 through 9	2022 No Project Peak Hour and Daily Traffic Volumes
10 through 17	2022 Alternative 1A and 1B Peak Hour and Daily Traffic Volumes
18 through 25	2022 Alternative 2A and 2B Peak Hour and Daily Traffic Volumes
26 through 29	2032 No Project Peak Hour and Daily Traffic Volumes
30 through 37	2032 Alternative 1A and 1B Peak Hour and Daily Traffic Volumes
38 through 45	2032 Alternative 2A and 2B Peak Hour and Daily Traffic Volumes
46 through 49	2042 No Project Peak Hour and Daily Traffic Volumes
50 through 57	2042 Alternative 1A and 1B Peak Hour and Daily Traffic Volumes
58 through 65	2042 Alternative 2A and 2B Peak Hour and Daily Traffic Volumes

Daily traffic forecast summary tables are also presented in the **Technical Appendix**.

Traffic Forecasts Summary

Under No Project conditions the daily traffic volumes on existing SR 108 between McHenry Avenue and Yosemite Avenue are anticipated to increase by about 0.6% per year and east of Yosemite Avenue the daily traffic volumes are anticipated to increase by about 1.2% per year. Based on available Caltrans traffic data between the period of 2000 and 2010 the daily traffic volumes on SR 108 in the study area have dropped slightly. The projected model growth rates are reasonable based on recent historical growth trends on existing SR 108.

Daily traffic volumes on SR 219 (Kiernan Avenue) between SR 99 and McHenry Avenue are anticipated to increase by about 3.1% per year under No Project conditions. Based on available Caltrans traffic data between the period of 2000 and 2010 the daily traffic volumes on SR 219 between SR 99 and McHenry Avenue have increased by about 3.5% per year. The model growth rates and historical growth rates on SR 219 are similar.

All of the project alternatives would result in a redistribution of traffic volumes in the study area. Generally, all alternatives result in an overall reduction in traffic volumes on major east-west roadways such as SR 108, Patterson Road, and Claratina Avenue.

Table 4 presents the estimated percent of year 2042 daily volume reduction on SR 108 between McHenry Avenue and Stearns Avenue after implementation of each project alternative. Alternative 1A generally results in a higher reduction in daily traffic volumes on SR 108 for the primary reason that the proposed alignment is a more attractive parallel route to SR 108 than other project alternatives because the alignment runs in closer proximity to the urbanized areas of the cities of Riverbank and Oakdale compared to other proposed alignments.

TABLE 4
ESTIMATED AVERAGE YEAR 2042 DAILY DEMAND VOLUME REDUCTION ON SR 108 BETWEEN MCHENRY AVENUE AND STEARNS AVENUE AFTER PROJECT IMPLEMENTATION

Alternative	Daily Reduction
1A	27%
1B	21%
2A	17%
2B	11%

Source: Fehr & Peers, 2013.

Neither of the project alternatives proposes improvements along the segment of Kiernan Avenue (SR 219) between SR 99 and Tully Road; however, volumes are expected to increase slightly along Kiernan Avenue due to the project. **Table 5** presents the estimated increase in peak hour volumes at intersections along Kiernan Avenue west of McHenry Avenue under year 2042 conditions, while **Table 6** presents the estimated increase in daily roadway volumes. As shown in **Tables 5 and 6**, the percent volume increase on Kiernan Avenue as a result of the Project gets smaller the further the link segment is from the Project location.

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TABLE 5
YEAR 2042 PERCENT PEAK HOUR VOLUME INCREASE ALONG KIERNAN AVENUE AFTER PROJECT IMPLEMENTATION

Intersection	No Project[1]	Alternative 1A[1]		Alternative 1B[1]		Alternative 2A[1]		Alternative 2B[1]	
	Volume	Volume	% Change	Volume	% Change	Volume	% Change	Volume	% Change
Kiernan Ave/ McHenry Ave	4,120 (5,540)	5,200 (7,510)	26% (36%)	5,200 (7,510)	26% (36%)	5,030 (7,070)	22% (28%)	5,030 (7,070)	22% (28%)
Kiernan Ave/ Tully Rd	3,490 (4,850)	4,390 (6,140)	26% (27%)	4,390 (6,140)	26% (27%)	4,250 (5,930)	22% (22%)	4,250 (5,930)	22% (22%)
Kiernan Ave/ Carver Rd	3,460 (4,260)	3,980 (4,780)	15% (12%)	3,980 (4,780)	15% (12%)	3,850 (4,600)	11% (8%)	3,850 (4,600)	11% (8%)
Kiernan Ave/ Dale Rd	4,620 (5,810)	4,990 (6,090)	8% (5%)	4,990 (6,090)	8% (5%)	4,930 (5,990)	7% (3%)	4,930 (5,990)	7% (3%)
Kiernan Ave/ Stoddard Rd	4,660 (4,530)	4,940 (4,720)	6% (4%)	4,940 (4,720)	6% (4%)	4,870 (4,610)	5% (2%)	4,870 (4,610)	5% (2%)
Kiernan Ave/ Sisk Rd	5,500 (5,830)	5,750 (6,020)	5% (3%)	5,750 (6,020)	5% (3%)	5,680 (5,910)	3% (1%)	5,680 (5,910)	3% (1%)
Kiernan Ave/ SR 99 NB Ramps	4,730 (5,410)	4,980 (5,600)	5% (4%)	4,980 (5,600)	5% (4%)	4,910 (5,490)	4% (1%)	4,910 (5,490)	4% (1%)
Kiernan Ave/ SR 99 SB Ramps	3,530 (3,800)	3,630 (3,910)	3% (3%)	3,630 (3,910)	3% (3%)	3,620 (3,880)	3% (2%)	3,620 (3,880)	3% (2%)

Notes:
1. Volumes and percent volume change shown as: AM Peak Hour (PM Peak Hour)
Source: Fehr & Peers, 2013.

TABLE 6
YEAR 2042 PERCENT DAILY VOLUME INCREASE ALONG KIERNAN AVENUE AFTER PROJECT IMPLEMENTATION

Kiernan Avenue Segment	No Project[1]	Alternative 1A		Alternative 1B		Alternative 2A		Alternative 2B	
	Daily Volume	Daily Volume	% Change	Daily Volume	% Change	Daily Volume	% Change	Daily Volume	% Change
McHenry Ave to Carver Rd	35,200	40,200	14.2%	40,200	14.2%	38,200	8.5%	38,200	8.5%
Carver Rd to Dale Rd	35,400	37,400	5.6%	37,400	5.6%	36,900	4.2%	36,900	4.2%
Dale Rd to SR 99	37,000	38,500	4.1%	38,500	4.1%	38,100	3.0%	38,100	3.0%

Source: Fehr & Peers, 2013.

Design Hourly Volumes

It is the Department's policy that freeway/highway/expressway design be based on 30th highest hour/design hourly volume (DHV). A conservative approach for freeway/highway/expressway design is to use not less than 10% of annual average daily traffic (AADT) in rural areas; however, lower percentages can be used with justification. In response to Caltrans' request comparing the peak hour demand volumes to a design hourly volume of 10% of the daily volumes, the percent of daily traffic represented by the peak hour demand forecasts was calculated and presented in

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Table 7. As shown in **Table 7**, the forecasted peak hour demand volumes generally account for about 10% to 12% of the daily volume.

TABLE 7
NORTH COUNTY CORRIDOR YEAR 2042 AVERAGE DAILY AND PEAK HOUR TRAFFIC DEMAND VOLUME COMPARISON

Location	Average Daily Traffic[1]	Peak Hour Demand Based on Model[1,2]	% ADT
NCC between McHenry Avenue and Coffee Road	49,700 (49,500) [48,400] {48,400}	5,280 (5,250) [4,900] {4,900}	10.6% (10.6%) [10.1%] {10.1%}
NCC between Coffee Road and Oakdale Road	46,100 (45,600) [40,600] {40,300}	4,610 (4,570) [4,220] {4,200}	10.0% (10.0%) [10.4%] {10.4%}
NCC between Oakdale Road and Claus Road	33,400 (32,700) [27,900] {26,700}	3,990 (3,930) [3,310] {3,210}	11.9% (12.0%) [11.9%] {12.0%}
NCC between Claus Road and Crane Road (Alternative 1A & 1B)/ NCC between Claus Road and Bentley Road (Alternative 2A & 2B)	34,300 (33,100) [25,500] {24,100}	4,020 (3,880) [3,000] {2,790}	11.7% (11.7%) [11.8%] {11.6%}
NCC between Crane Road and Albers Road (Alternative 1A & 1B)/ NCC between Bentley Road and Albers Road (Alternative 2A & 2B)	24,700 (23,800) [21,100] {19,300}	2,940 (2,780) [2,510] {2,270}	11.9% (11.7%) [11.9%] {11.8%}
NCC between Albers Road and Stearns Road (Alternative 1A, 1B, & 2A)/ NCC between Albers Road and Smith Road (Alternative 2B)	16,400 (12,300) [16,200] {10,300}	1,880 (1,410) [1,860] {1,170}	11.5% (11.5%) [11.5%] {11.4%}
NCC between Stearns Road and SR 108/SR 120 (Alternative 1A, 1B, & 2A)/ NCC between Smith Road and SR 108/SR 120 (Alternative 2B)	9,600 (7,200) [8,800] {6,700}	1,100 (930) [1,040] {840}	11.5% (12.9%) [11.8%] {12.5%}

Notes:
1. WWW(XXX)[YYY]{ZZZ} = Alternative 1A (Alternative 1B) [Alternative 2A] {Alternative 2B}
2. This represents the PM peak hour volume for both directions of traffic.

Source: Fehr & Peers, 2013.

DEPARTMENT OF TRANSPORTATION RISK ASSESSMENT

As agreed with Caltrans, the traffic forecasting documentation prepared for infrastructure projects in Stanislaus County should include a risk assessment discussion to present the Department's position on forecasting and the uncertainties associated with developing long-range forecasts. The discussion in this section serves this purpose.

The Department supports the development of local, focused transportation models to assist in studying operational forecast data for project design. To protect the safety and operation of the State Highway System (SHS), these models should accurately assess future land use development and provide reliable future traffic forecasts to ensure proper sizing and location of transportation improvement projects.

Under the proposal presented by Fehr & Peers, the Department is comfortable with the development of focused area models or stand-alone models as long as either approach maintains the integrity of StanCOG's adopted regional forecasts for population and employment, as well as the certified zoning maps of local jurisdictions' adopted general plans. To accomplish this, the model used for this project was derived from StanCOG's 2011 RTP traffic model.

Under the proposal, for any specific transportation project requiring detailed analysis, land use within jurisdictions may be shifted in order to "reallocate post-2010 housing and/or employment growth from elsewhere in the city or region to achieve foreseeable buildout of the project area". This shifting will be performed in a manner that conforms to the certified land use zoning pattern adopted through a local general plan and development approval process.

To support project development, regional travel demand models such as that administered by StanCOG must undergo significant roadway network refinement and disaggregation of zonal land use data to obtain the level of precision required for operational analysis and project design. To maintain the integrity of regional air quality conformity determinations, this process must ensure that the development of refined models maintains consistency with the planning assumptions contained within the regional model. To a significant extent, the proposed approach maintains this consistency at the regional and city-by-city level. To maintain consistency at a more detailed level, StanCOG should continue to update its land use projections on a regular basis and should consider recent changes to adopted local land use plans when performing the updates.

The Fehr & Peers proposal as presented does not assure that this more detailed level of land use consistency will be maintained. Therefore, there is a risk associated with the possibility that future StanCOG land use projections and future regional transportation planning and air quality analysis may produce findings that differ from the assumptions and results contained in current project-specific studies. In that event, either: 1) future regional analysis may supersede the findings of the project-specific studies and may attempt to address any additional traffic or air quality impacts that result, or 2) there may be a risk to regional mobility and air quality conformity may not be maintained.

Under the second scenario, the risk relates to the possibility that successive studies that respond to individual development plans may result in an overestimation of the level of land use development as well as the transportation system built to facilitate it. If appropriate amendments are not made to regionally adopted land use projections used to make air quality conformity determinations, this process may result in a greater level of pollution than expected if not offset by appropriate mitigation strategies. The long term result may be higher levels of air pollution along with increased and unanticipated health hazards to local and regional populations. Another

important foreseeable risk is that the Stanislaus County air quality conformity standards may be found to be in non-compliance by responsible reviewing agencies.

If there are any questions or comments, please contact Eddie Barrios at (925) 930-7100.

FEHR PEERS

TECHNICAL MEMORANDUM

Date: March 7, 2014

To: Matt Satow, Drake Haglan & Associates

From: Eddie Barrios, Fehr & Peers

Subject: ***Addendum to the Approved Traffic Demand Forecasts for North County Corridor PA/ED***

WC08-2575

This is an addendum to the approved traffic demand forecasts for the North County Corridor Project (NCC) presented in the memorandum entitled *Final Year 2022, 2032 and 2042 Traffic Demand Forecasts for North County Corridor PA/ED* (July 12, 2013). NCC is a new four- to six-lane east-west expressway in northern Stanislaus County, CA. There are currently four project alternatives under consideration (1A, 1B, 2A, and 2B). The design for all project alternatives is the same west of Claus Road.

The approved forecasts are based on a project design that did not include direct access to Roselle Avenue. Based on recent direction from the project team the new project design includes direct access to Roselle Avenue via a single-point urban interchange (SPUI – see Appendix A).

UPDATED FORECASTS

Fehr & Peers met with Caltrans Forecasting and Operations on February 14, 2014, to develop an approach to adjust the approved traffic forecasts (2022 and 2042). Based on some preliminary analysis of the new project design and discussions at the meeting it was determined that the Roselle Avenue access would only redistribute traffic immediately surrounding the NCC/Roselle Avenue interchange. The team agreed on the following approach to modify the approved forecasts for Year 2022 and Year 2042:

- Perform a new model run (year 2022 and 2042) for Alternative 1A with NCC access to Roselle Avenue
- Compare raw model volumes with and without the Roselle Avenue access and manually adjust the approved forecasts to account for the Roselle Avenue interchange
- The following locations are anticipated to be adjusted:
    - NCC/Oakdale Road interchange
    - NCC/Roselle Avenue interchange
    - NCC/Claus Road intersection
    - Claribel Road/Oakdale Road
    - Frontage Road intersection immediately to the south of the NCC/Oakdale Road interchange
    - Frontage Road intersections immediately to the north and south of the NCC/Roselle Avenue interchange

  - Frontage Road intersections immediately to the north and south of the NCC/Claus Road intersection
  - NCC (eastbound and westbound) between Oakdale Road and Claus Road

- Forecasts at all other locations would remain unchanged from the approved forecasts

Appendix B presents the new year 2022 and 2042 AM and PM peak hour turning movement forecasts (and peak hour link volumes) at select locations. The information that is presented is:

- Current approved forecasts (note that frontage road forecasts at intersections are included)

- New forecasts at select locations

- Delta (volume difference between the new forecasts and approved forecasts)

Appendix C presents the new average daily traffic volumes at select locations.

DESIGN HOURLY VOLUMES FOR UPDATED LOCATIONS

It is the Department's policy that freeway/highway/expressway design be based on 30th highest hour/design hourly volume (DHV). A conservative approach for freeway/highway/expressway design is to use not less than 10% of annual average daily traffic (AADT) in rural areas; however, lower percentages can be used with justification. In response to Caltrans' request comparing the peak hour demand volumes to a design hourly volume of 10% of the daily volumes, the percent of daily traffic represented by the peak hour demand forecasts was calculated and presented in **Table 1**. As shown in **Table 1**, the forecasted peak hour demand volumes generally account for about 10% to 12% of the daily volume.

NEXT STEPS

The following are the next steps to move forward with the project analysis:

- Caltrans Forecasting should review and approve the updated forecasts at the select locations
- Once the updated forecasts are approved the future year traffic operations analysis will re-start using the updated forecasts
- The first submittal of the Draft Traffic Operations Report will include the following major sections:
  - Existing Conditions
  - Traffic Demand Forecasts (a complete set of forecasts will be documented for all locations that will merge the updated forecasts presented in this memorandum with the previously approved forecasts that remain unchanged)
  - Year 2042 traffic operations analysis results for all alternatives (Year 2022 analysis results will be provided in subsequent deliverables after Caltrans provides initial set of comments)

If there are any questions or comments, please contact me at (925) 930-7100.

FEHR PEERS

TABLE 1
NORTH COUNTY CORRIDOR YEAR 2042 AVERAGE DAILY AND PEAK HOUR TRAFFIC DEMAND VOLUME COMPARISON

Location	Average Daily Traffic[1]	Peak Hour Demand Based on Model[1,2]	% ADT
NCC west of Oakdale Road	46,100 (45,600) [40,600] {40,300}	4,610 (4,570) [4,220] {4,200}	10.0% (10.0%) [10.4%] {10.4%}
NCC between Oakdale Road and Roselle Avenue	36,700 (35,900) [31,100] {29,900}	4,380 (4,340) [3,700] {3,600}	11.9% (12.0%) [11.9%] {12.0%}
NCC between Roselle Avenue and Claus Road	36,700 (35,900) [31,000] {29,800}	4,380 (4,320) [3,680] {3,580}	11.9% (12.0%) [11.9%] {12.0%}
NCC east of Claus Road	34,300 (33,100) [25,500] {24,100}	4,020 (3,880) [3,000] {2,790}	11.7% (11.7%) [11.8%] {11.6%}

Notes:
1. WWW(XXX)[YYY]{ZZZ} = Alternative 1A (Alternative 1B) [Alternative 2A] {Alternative 2B}
2. This represents the PM peak hour volume for both directions of traffic.

Source: Fehr & Peers, 2014.

DEPARTMENT OF TRANSPORTATION
P.O. BOX 2048 STOCKTON, CA 95201
(1976 E. CHARTER WAY/1976 E. DR. MARTIN
LUTHER KING JR. BLVD. 95205)
PHONE: (209) 948-7071
FAX: (209) 948-3670
TTY: 711

Flex your power!
Be energy efficient!

July 25, 2013

Mr. Eddie Barrios, P.E.
Fehr & Peers
100 Pringle Avenue, Suite 600
Walnut Creek, CA 94596

File: EA 10-0S800K
North County Corridor

Dear Mr. Barrios,

We have completed our review of the forecasting/modeling work done for the future years 2022, 2032, and 2042. The forecasting/modeling work done for the future years for this project appears to be reasonable. Therefore, D10 Travel Forecasting is expressing its approval for the forecasting/modeling work. You may continue with the operational/traffic analysis work for the future years for this project.

D10 Forecasting acknowledges that the changes in traffic volumes (project vs. no-project conditions) along SR 219 (Kiernan Avenue) appear to be within reasonable limits and do not appear to show an overall significant change in traffic along the entire segment of SR 219 between SR 99 and McHenry Avenue. Based on this, D10 Forecasting supports the intersection of Tully Road at SR 219 (Kiernan Avenue) as the location of the western termini of this project.

D10 Forecasting notes that the travel demand model for this project assumes SR 219 as a six-lane expressway beginning at the intersection of Carver Road and proceeding eastward. The model also assumes SR 219 as a four-lane expressway between the interchange at SR 99 and the intersection at Carver Road.

The model also assumes an interchange replacement project at the existing interchange of SR 99 and Hammett Avenue as well as a two-lane arterial that runs between this interchange and the intersection at Dale Road.

D10 Forecasting also notes that the six-lane widening project on SR 219 and the interchange replacement project at the existing SR 99/Hammett Avenue interchange is included in the StanCOG 2014 RTP Tier 1 List of Projects with the proposed two-lane arterial east of the SR 99/Hammett Avenue interchange included as part of the SR 99/Hammett Road interchange replacement project.

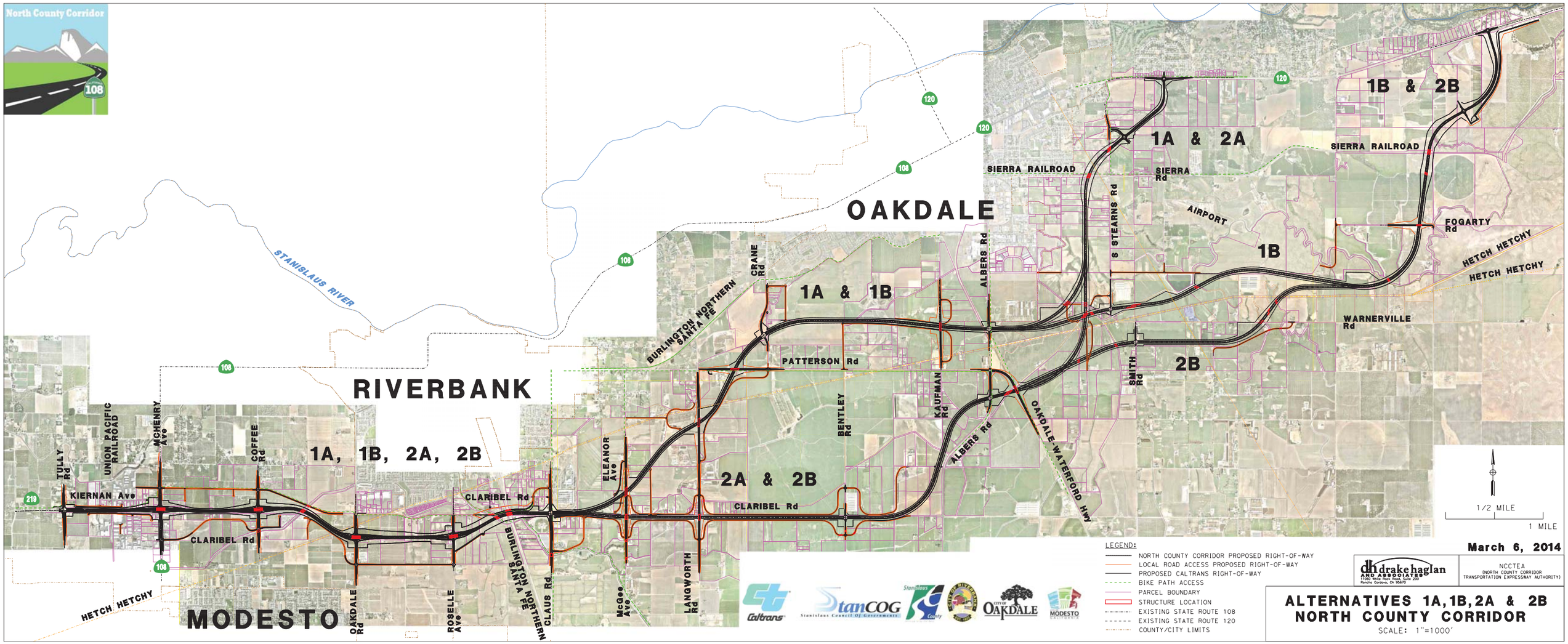
If you have any questions, please contact me at (209) 948-7071 or Homer Zarzuela of my staff at (209) 948-7871.

Sincerely,

FOR Perfecto Robledo, P.E.
Office Chief
District 10 Travel Forecasting

Cc: Joy Pinne, Project Manager, District 10 Program Project Management
Vu Nguyen, Office Chief, District 10 Traffic Operations
Mark A. Wood, Jacobs Engineering Group Inc.

APPENDIX K:
ROUTE LAYOUTS FOR PROJECT ALTERNATIVES


North County Corridor
108
OAKDALE
RIVERBANK
MODESTO
STANISLAUS RIVER
1A & 1B
1A & 2A
1B & 2B
1B
2B
2A & 2B
1A, 1B, 2A, 2B
SIERRA RAILROAD
SIERRA Rd
AIRPORT
FOGARTY Rd
HETCH HETCHY
WARNERVILLE Rd
S STEARNS Rd
ALBERS Rd
CRANE Rd
BURLINGTON NORTHERN SANTA FE
PATTERSON Rd
BENTLEY Rd
KAUFMAN Rd
SMITH Rd
OAKDALE-WATERFORD Hwy
CLARIBEL Rd
ELEANOR Ave
LANGWORTH Rd
CLAUS Rd
McGee Ave
ROSELLE Ave
OAKDALE Rd
COFFEE Rd
MCHENRY Ave
UNION PACIFIC RAILROAD
TULLY Rd
KIERNAN Ave
219
120
108
1/2 MILE
1 MILE
LEGEND:
NORTH COUNTY CORRIDOR PROPOSED RIGHT-OF-WAY
LOCAL ROAD ACCESS PROPOSED RIGHT-OF-WAY
PROPOSED CALTRANS RIGHT-OF-WAY
BIKE PATH ACCESS
PARCEL BOUNDARY
STRUCTURE LOCATION
EXISTING STATE ROUTE 108
EXISTING STATE ROUTE 120
COUNTY/CITY LIMITS
Caltrans
StanCOG
Stanislaus Council of Governments
Stanislaus County
CITY OF OAKDALE
MODESTO
drake haglan AND ASSOCIATES
11080 White Rock Road, Suite 200
Rancho Cordova, CA 95670
NCCTEA
(NORTH COUNTY CORRIDOR TRANSPORTATION EXPRESSWAY AUTHORITY)
March 6, 2014
ALTERNATIVES 1A,1B,2A & 2B
NORTH COUNTY CORRIDOR
SCALE: 1"=1000'

APPENDIX L:
2022 SIGNAL WARRANT ANALYSIS WORKSHEETS

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

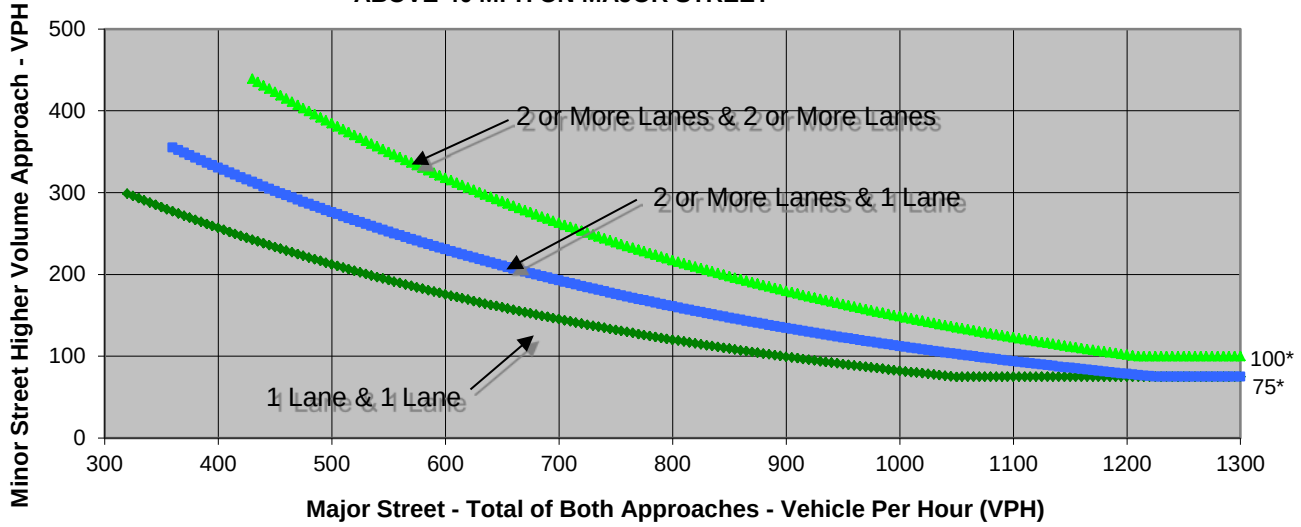
	NB	SB	EB	WB
Left	10	10	570	220
Through	590	400	180	170
Right	230	280	40	40
Total	830	690	790	430

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**5**	**YES**
Traffic Volume (VPH) *	**1,220**	**830**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

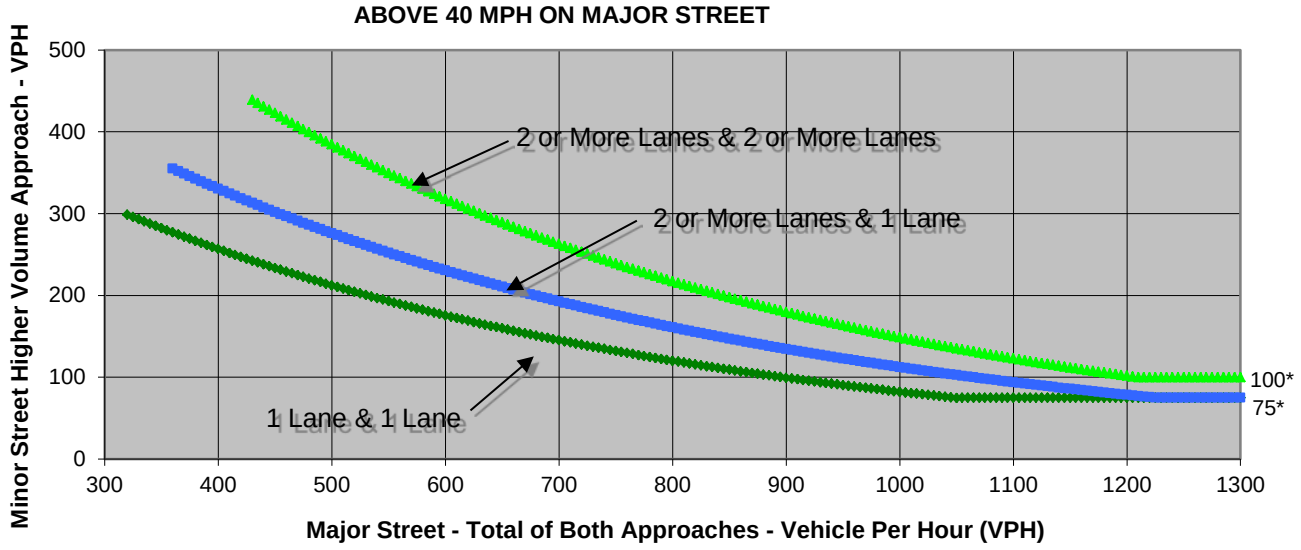
	NB	SB	EB	WB
Left	10	50	450	280
Through	440	620	210	190
Right	290	600	30	10
Total	740	1,270	690	480

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**5**	**YES**
Traffic Volume (VPH) *	**1,170**	**1,270**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

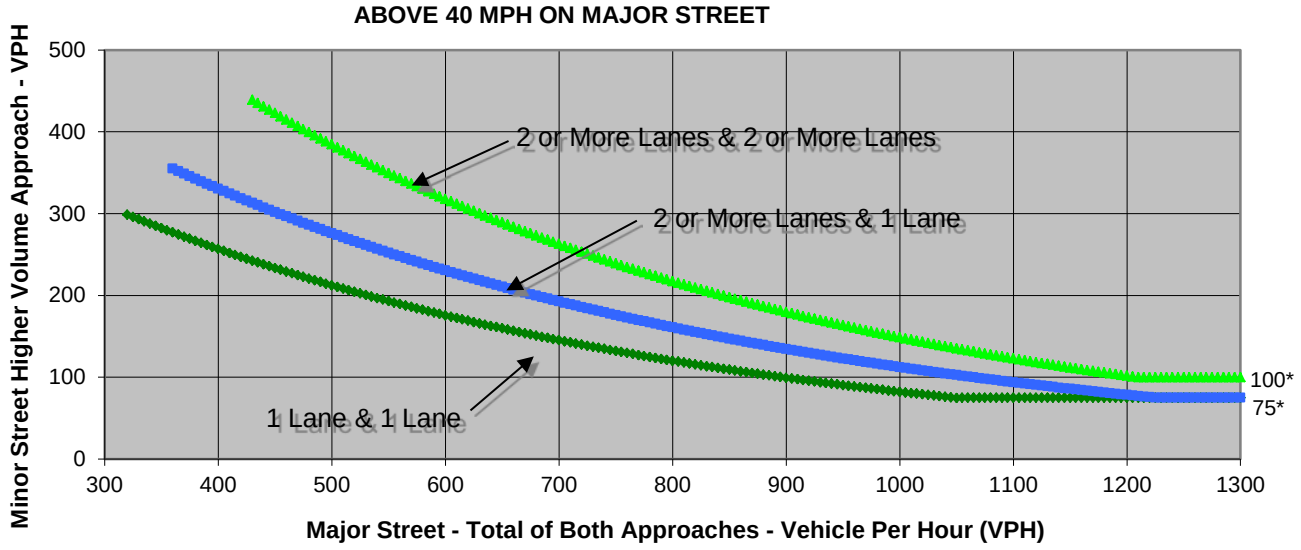
	NB	SB	EB	WB
Left	10	10	570	180
Through	620	440	100	130
Right	200	280	40	10
Total	830	730	710	320

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**5**	**YES**
Traffic Volume (VPH) *	**1,030**	**830**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

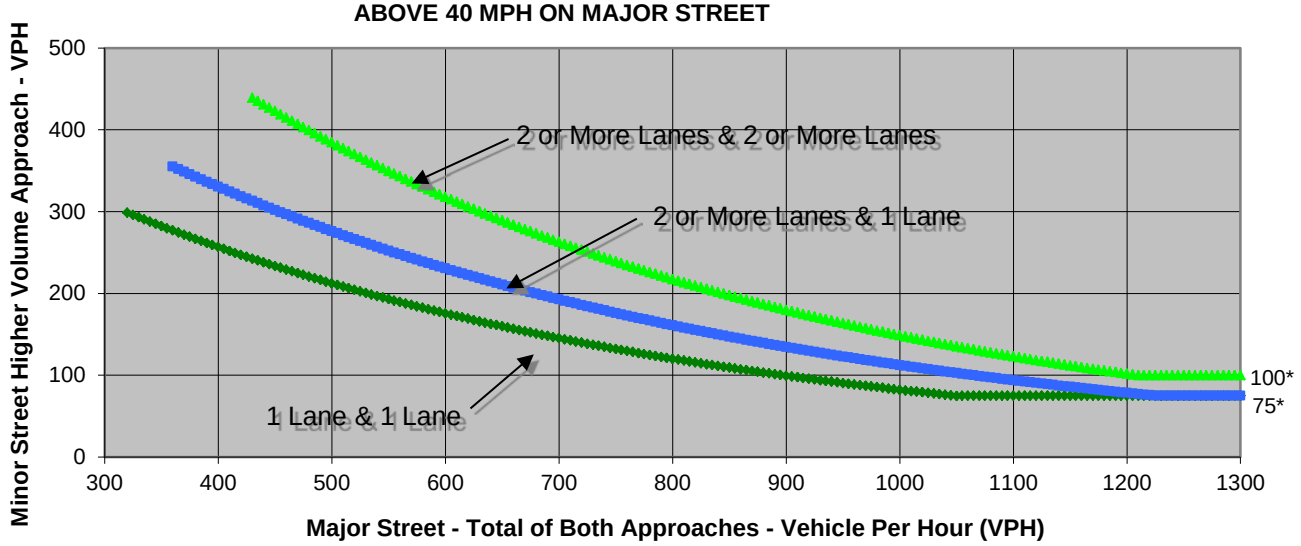
	NB	SB	EB	WB
Left	10	30	420	230
Through	480	670	200	160
Right	250	600	30	10
Total	740	1,300	650	400

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**5**	**YES**
Traffic Volume (VPH) *	**1,050**	**1,300**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

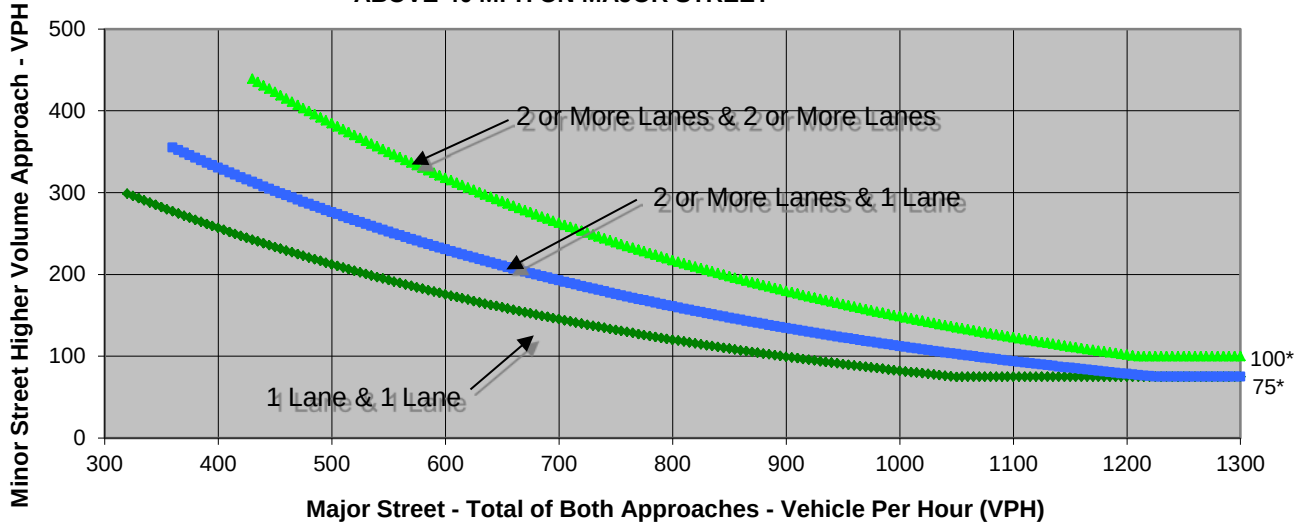
	NB	SB	EB	WB
Left	10	30	600	210
Through	250	320	130	140
Right	230	530	30	30
Total	490	880	760	380

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**3**	**YES**
Traffic Volume (VPH) *	**1,140**	**880**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

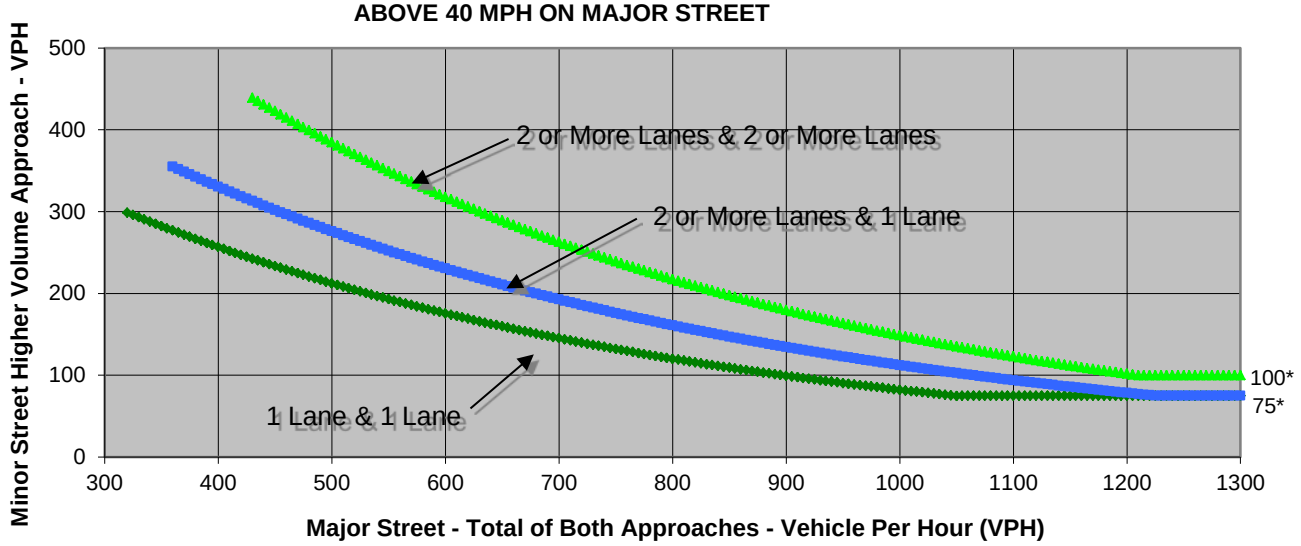
	NB	SB	EB	WB
Left	10	30	590	220
Through	200	230	190	160
Right	300	590	10	60
Total	510	850	790	440

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**3**	**YES**
Traffic Volume (VPH) *	**1,230**	**850**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

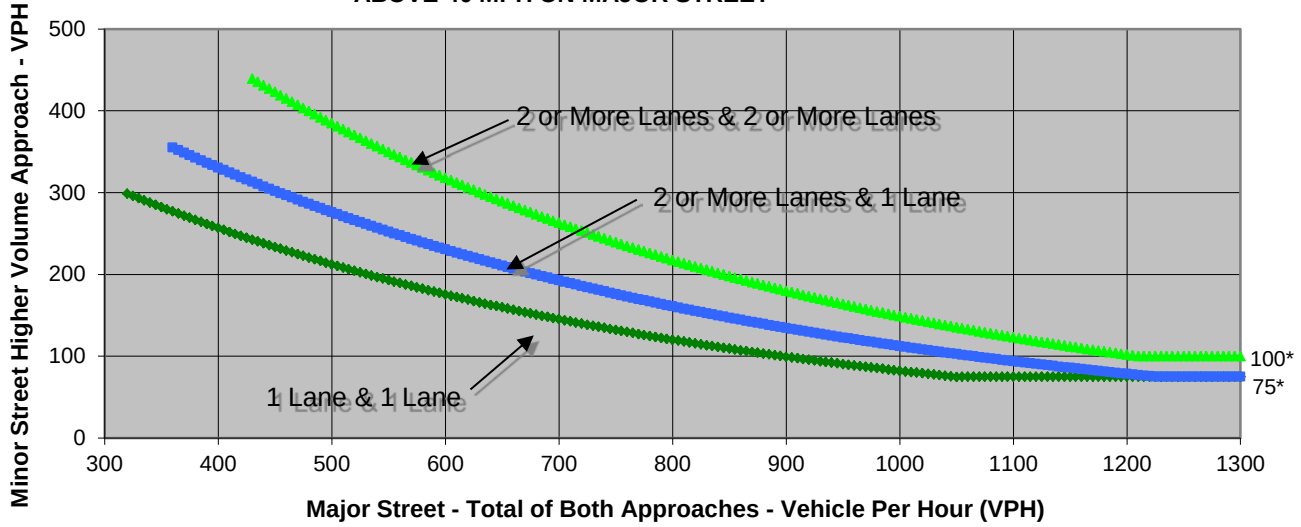
	NB	SB	EB	WB
Left	10	10	610	170
Through	300	350	40	80
Right	180	490	30	10
Total	490	850	680	260

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**3**	**YES**
Traffic Volume (VPH) *	**940**	**850**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

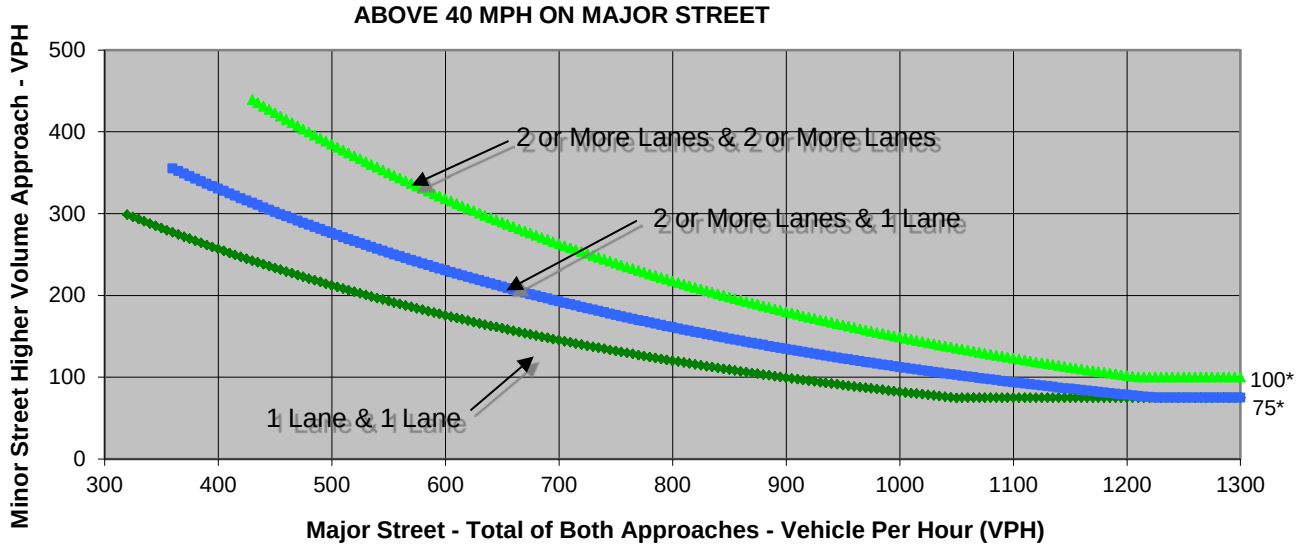
	NB	SB	EB	WB
Left	10	10	480	170
Through	250	280	150	140
Right	250	520	10	20
Total	510	810	640	330

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**3**	**YES**
Traffic Volume (VPH) *	**970**	**810**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC Corridor
Scenario	2022 No Project
Peak Hour	AM

Major Street	Claribel Road
Minor Street	Bentley Road

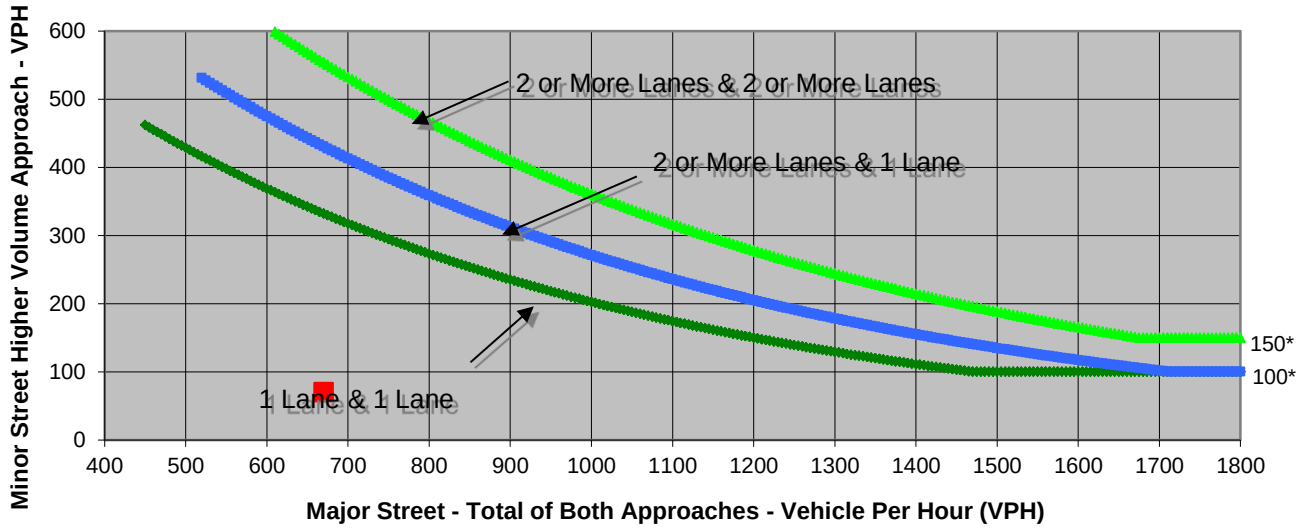
Turn Movement Volumes

	NB	SB	EB	WB
Left	20	20	40	20
Through	20	30	250	330
Right	10	20	10	20
Total	50	70	300	370

Major Street Direction

	North/South
x	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Bentley Road	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**670**	**70**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC Corridor
Scenario	2022 No Project
Peak Hour	PM

Major Street	Claribel Road
Minor Street	Bentley Road

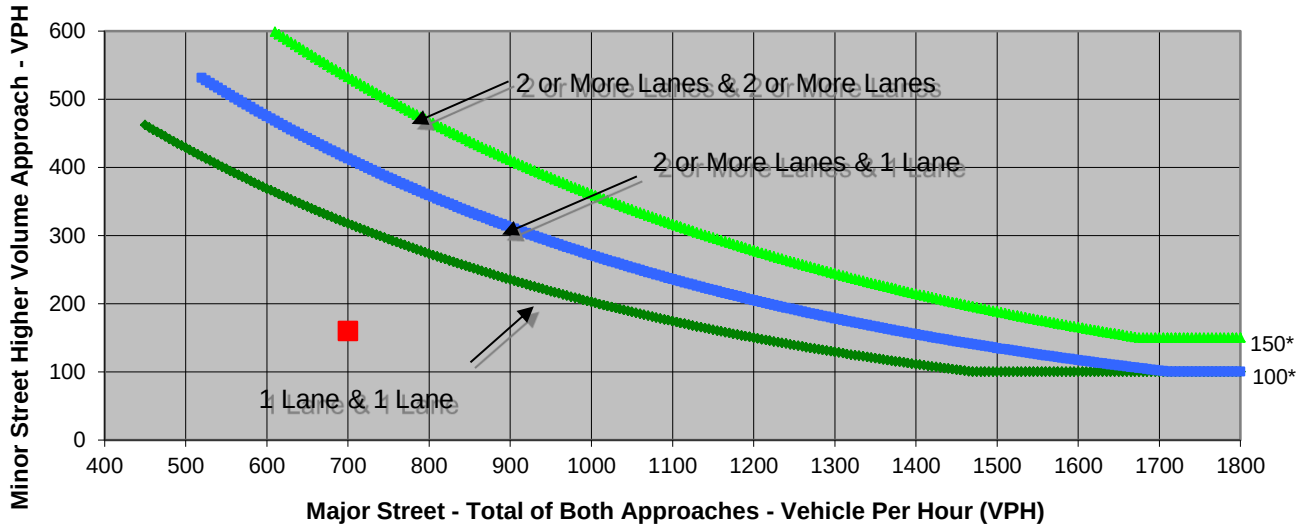
Turn Movement Volumes

	NB	SB	EB	WB
Left	10	30	30	20
Through	30	40	330	270
Right	10	90	20	30
Total	50	160	380	320

Major Street Direction

	North/South
x	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Bentley Road	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**700**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	NCC
Minor Street	Bentley Road

Turn Movement Volumes

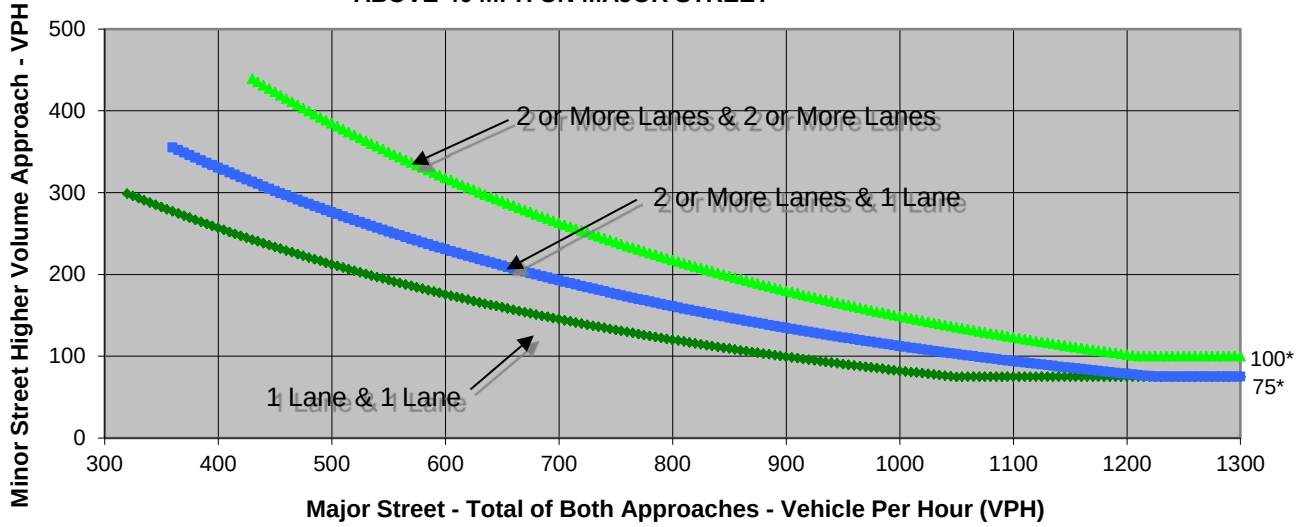
	NB	SB	EB	WB
Left	70	10	100	20
Through	40	80	730	650
Right	20	20	60	10
Total	130	110	890	680

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Bentley Road	
Number of Approach Lanes	**4**	**3**	**YES**
Traffic Volume (VPH) *	**1,570**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	NCC
Minor Street	Bentley Road

Turn Movement Volumes

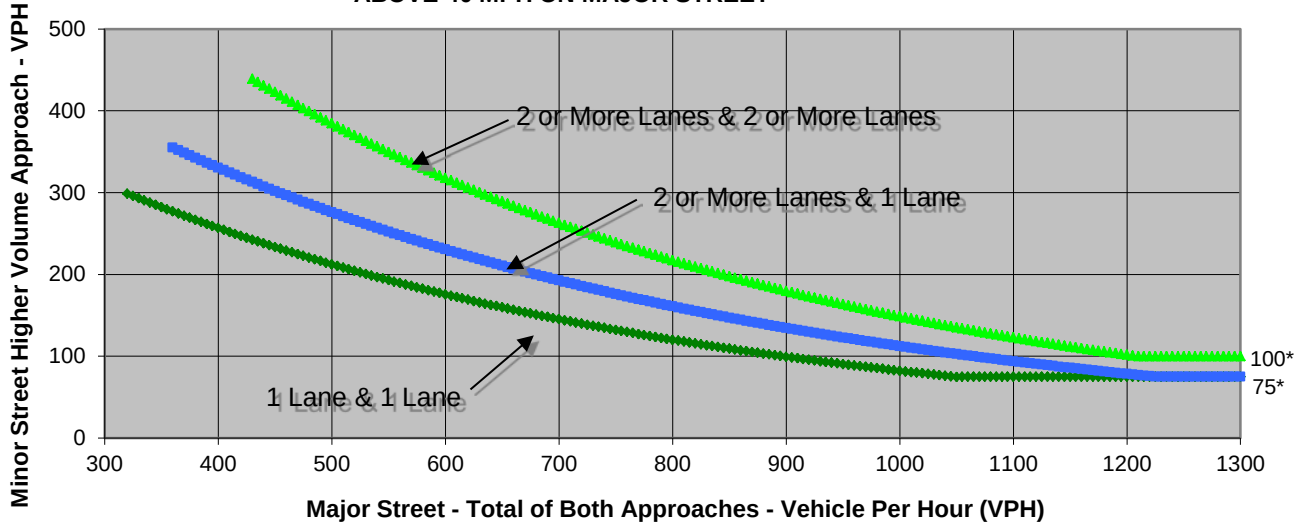
	NB	SB	EB	WB
Left	30	10	30	70
Through	80	70	760	680
Right	20	120	110	10
Total	130	200	900	760

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Bentley Road	
Number of Approach Lanes	**4**	**3**	**YES**
Traffic Volume (VPH) *	**1,660**	**200**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	NCC
Minor Street	Bentley Road

Turn Movement Volumes

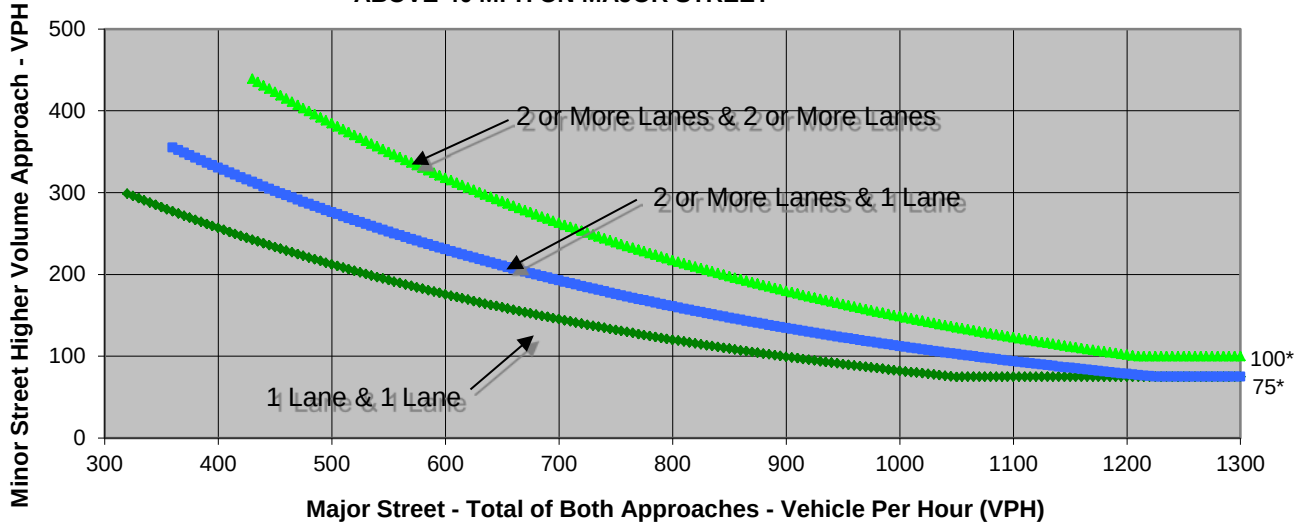
	NB	SB	EB	WB
Left	80	10	110	10
Through	50	80	660	560
Right	10	30	60	10
Total	140	120	830	580

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Bentley Road	
Number of Approach Lanes	**4**	**3**	**YES**
Traffic Volume (VPH) *	**1,410**	**140**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	NCC
Minor Street	Bentley Road

Turn Movement Volumes

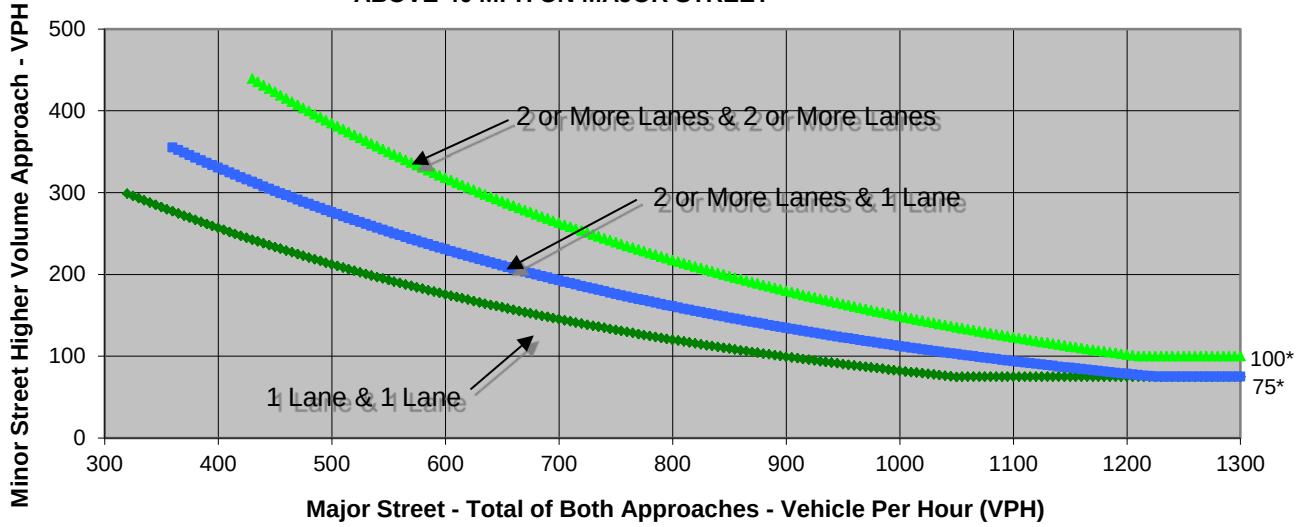
	NB	SB	EB	WB
Left	30	10	50	50
Through	80	70	620	610
Right	10	130	120	10
Total	120	210	790	670

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Bentley Road	
Number of Approach Lanes	**4**	**3**	**YES**
Traffic Volume (VPH) *	**1,460**	**210**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

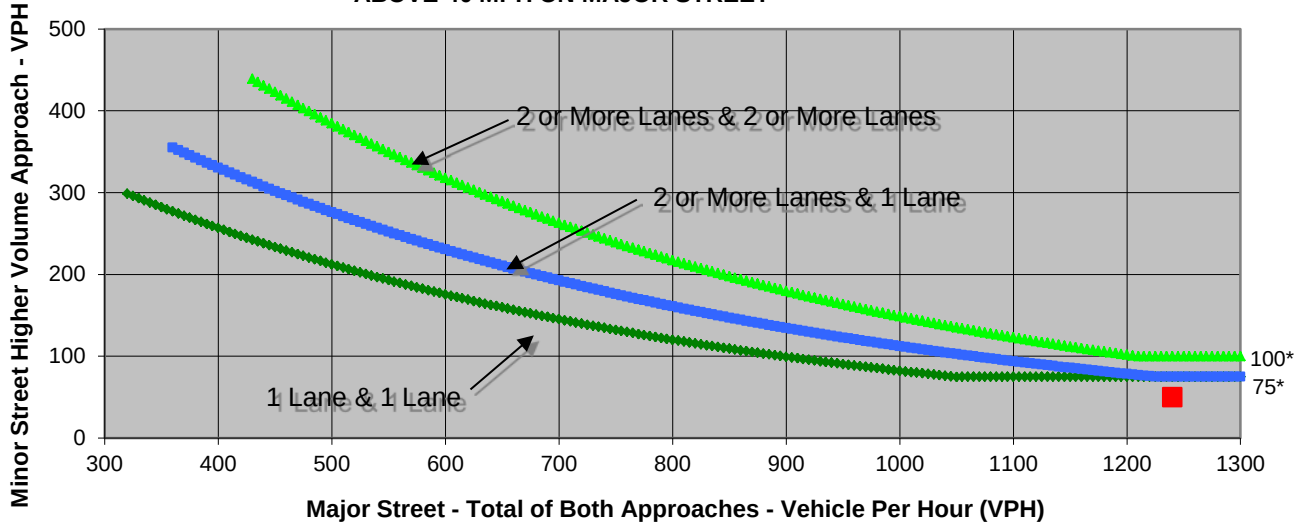
	NB	SB	EB	WB
Left	80	10	20	10
Through	410	720	10	10
Right	10	10	20	10
Total	500	740	50	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**NO**
Traffic Volume (VPH) *	**1,240**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

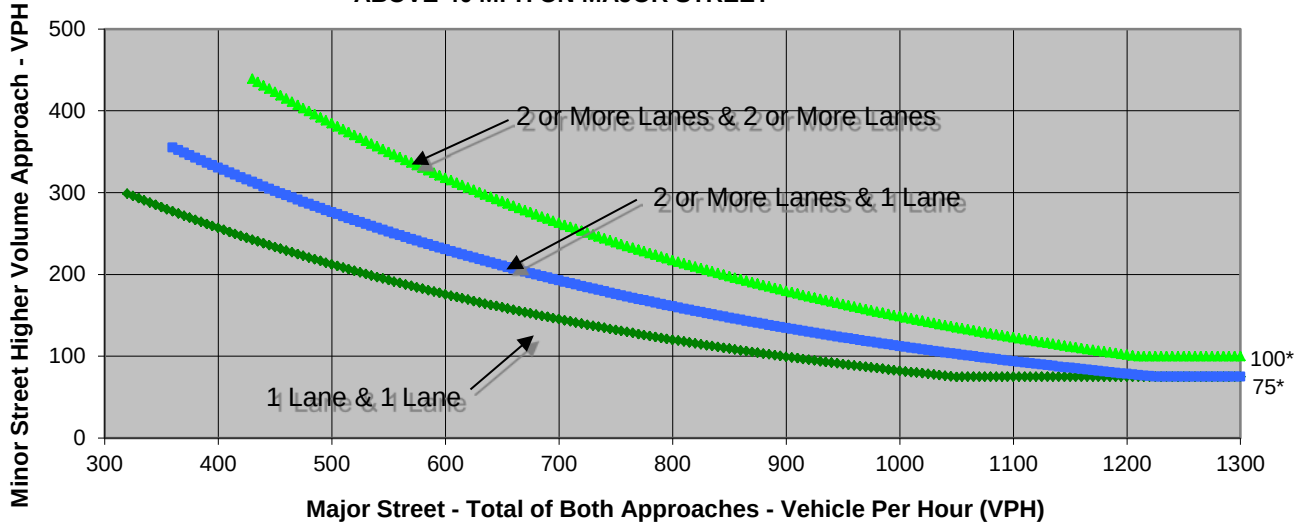
	NB	SB	EB	WB
Left	80	20	40	20
Through	880	580	10	20
Right	20	20	100	20
Total	980	620	150	60

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,600**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

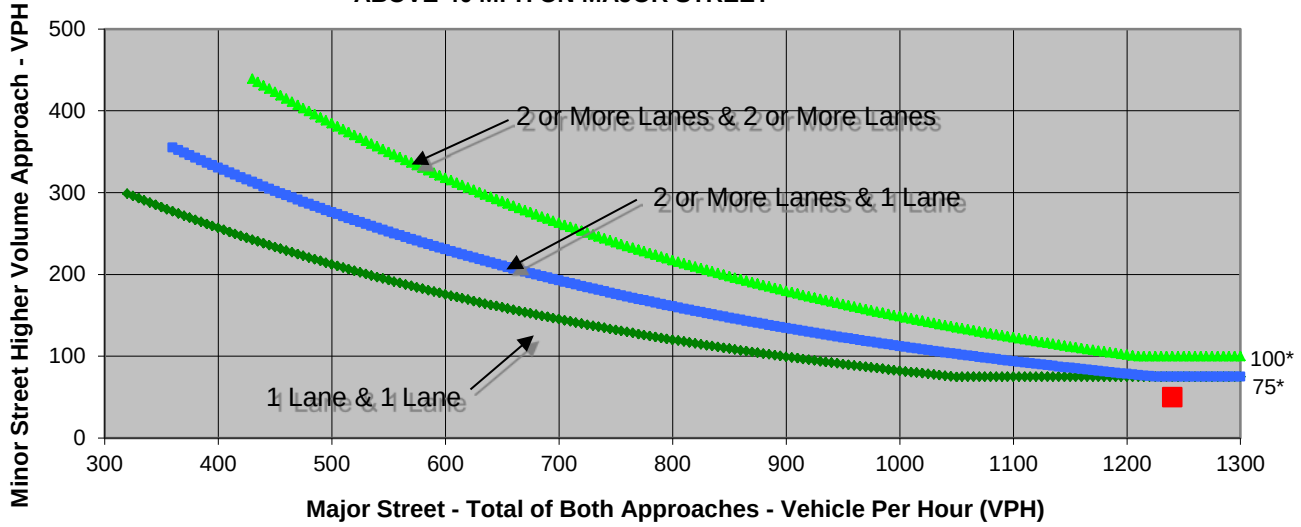
	NB	SB	EB	WB
Left	80	10	20	10
Through	410	720	10	10
Right	10	10	20	10
Total	500	740	50	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**NO**
Traffic Volume (VPH) *	**1,240**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

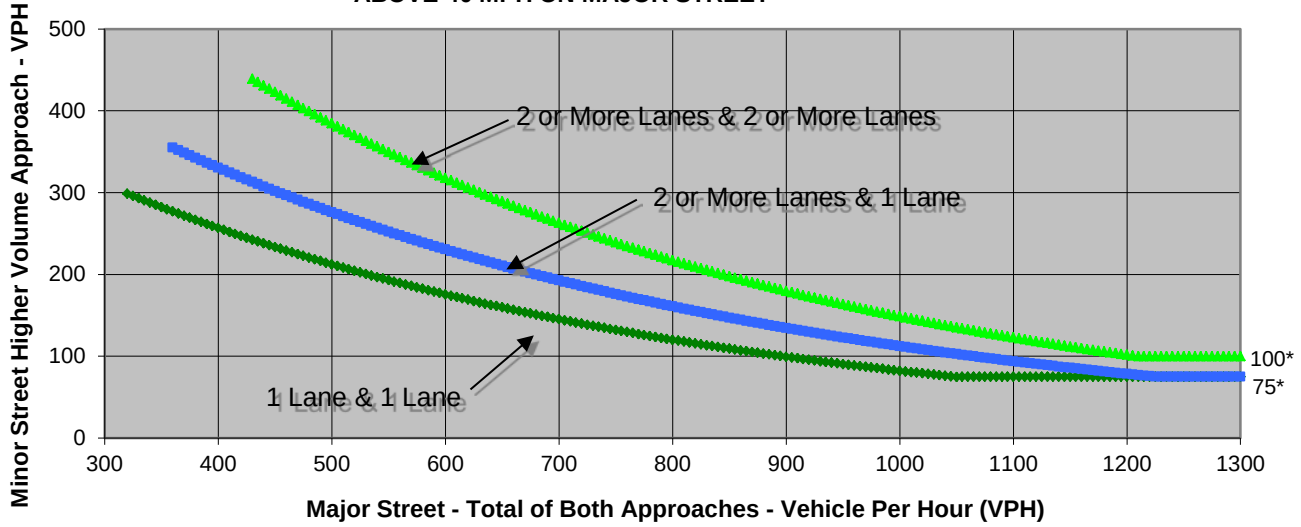
	NB	SB	EB	WB
Left	80	20	40	20
Through	890	580	10	20
Right	20	20	100	20
Total	990	620	150	60

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,610**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

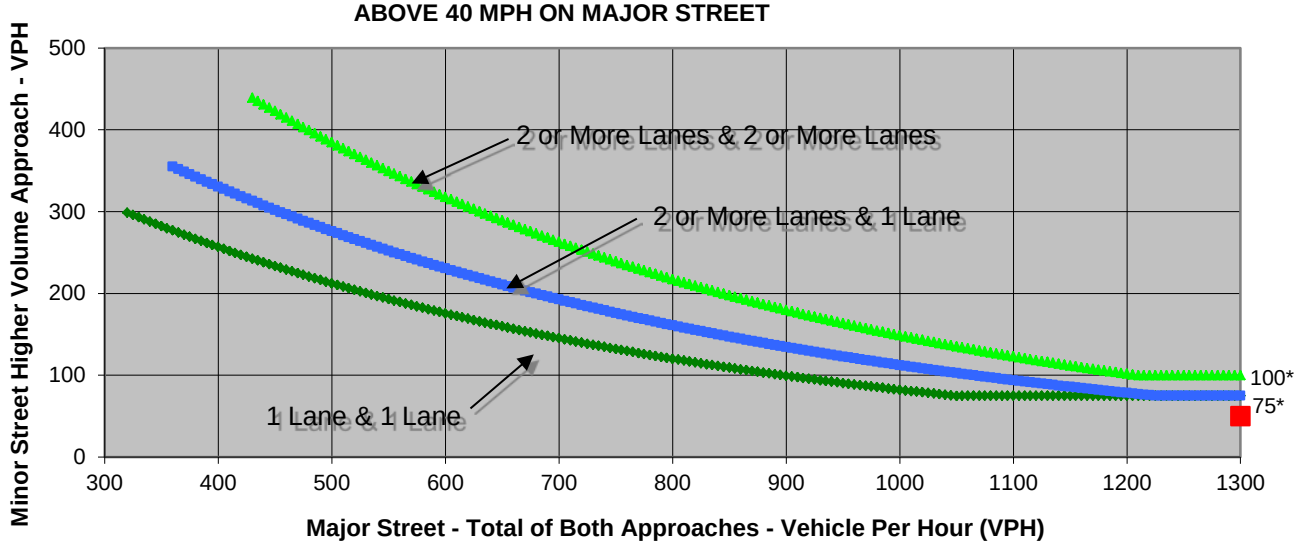
	NB	SB	EB	WB
Left	10	10	20	10
Through	540	720	10	10
Right	10	10	20	10
Total	560	740	50	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**NO**
Traffic Volume (VPH) *	**1,300**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

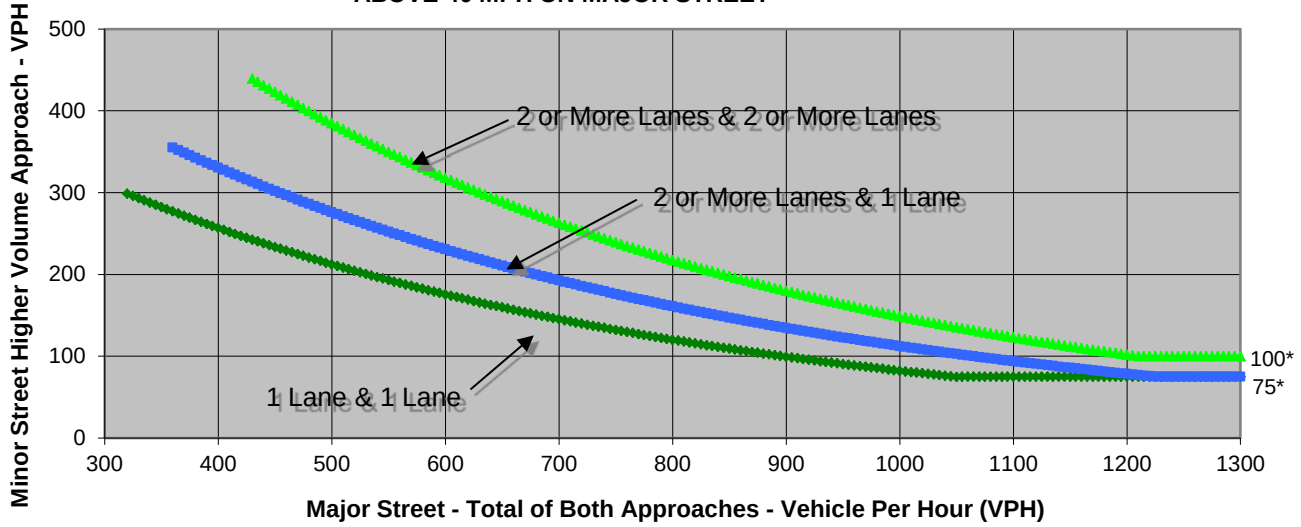
	NB	SB	EB	WB
Left	80	20	40	20
Through	850	570	10	20
Right	20	20	100	20
Total	950	610	150	60

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,560**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

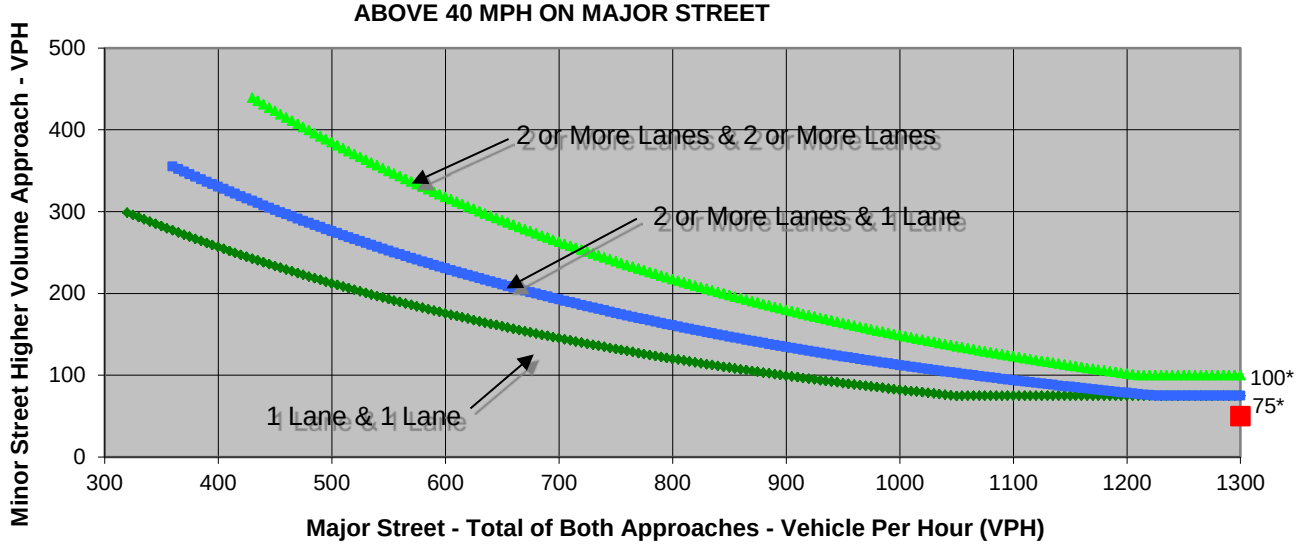
	NB	SB	EB	WB
Left	80	10	20	10
Through	470	720	10	10
Right	10	10	20	10
Total	560	740	50	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**NO**
Traffic Volume (VPH) *	**1,300**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

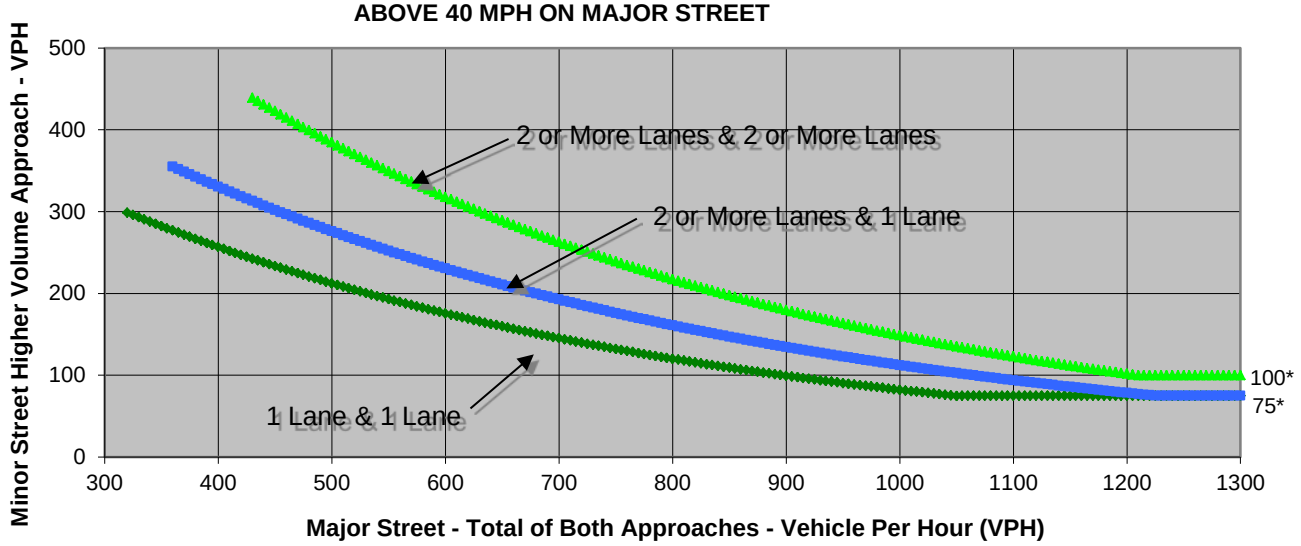
	NB	SB	EB	WB
Left	80	20	40	20
Through	850	570	10	20
Right	20	20	100	20
Total	950	610	150	60

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,560**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 No Project
Peak Hour	AM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

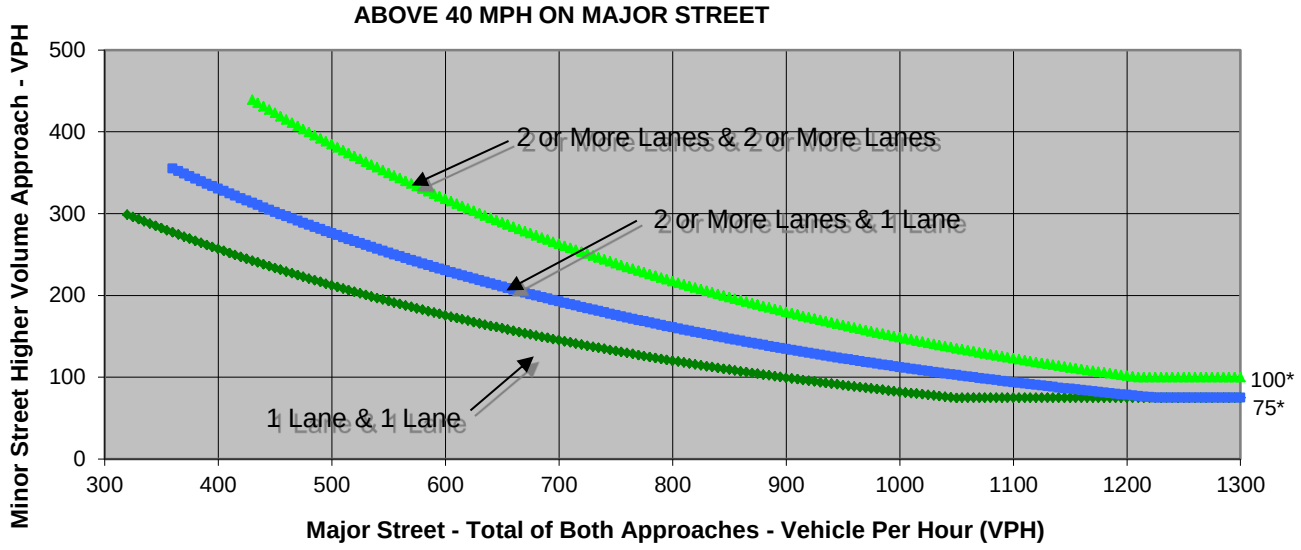
	NB	SB	EB	WB
Left	520	0	70	0
Through	370	640	0	0
Right	0	250	200	0
Total	890	890	270	0

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**1,780**	**270**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 No Project
Peak Hour	PM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

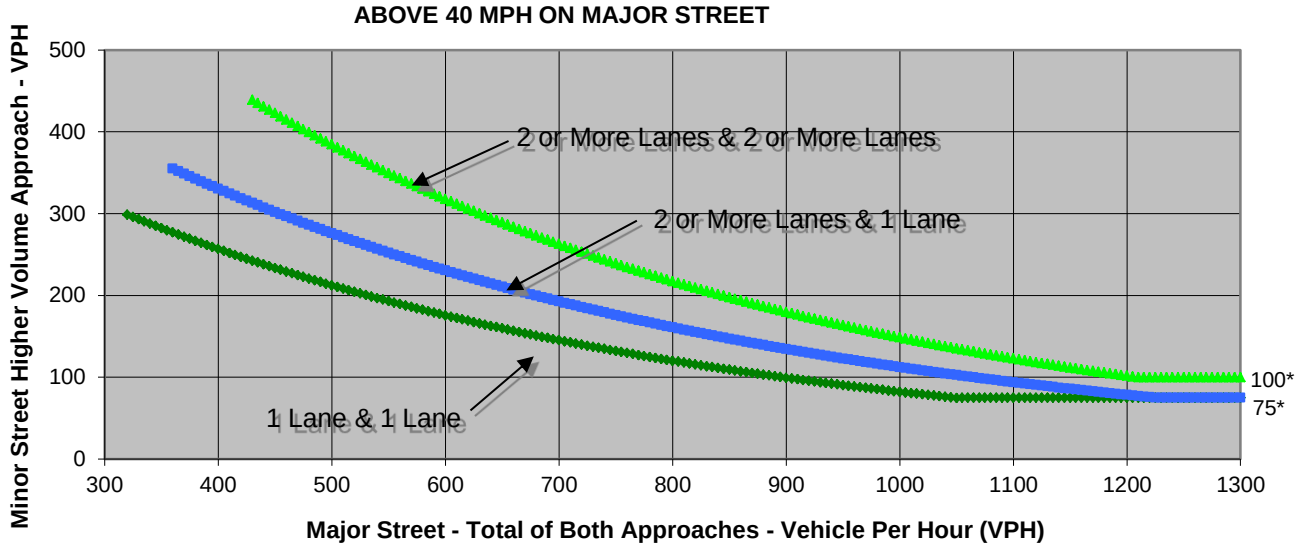
	NB	SB	EB	WB
Left	340	0	150	0
Through	750	600	0	0
Right	0	120	610	0
Total	1,090	720	760	0

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**1,810**	**760**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

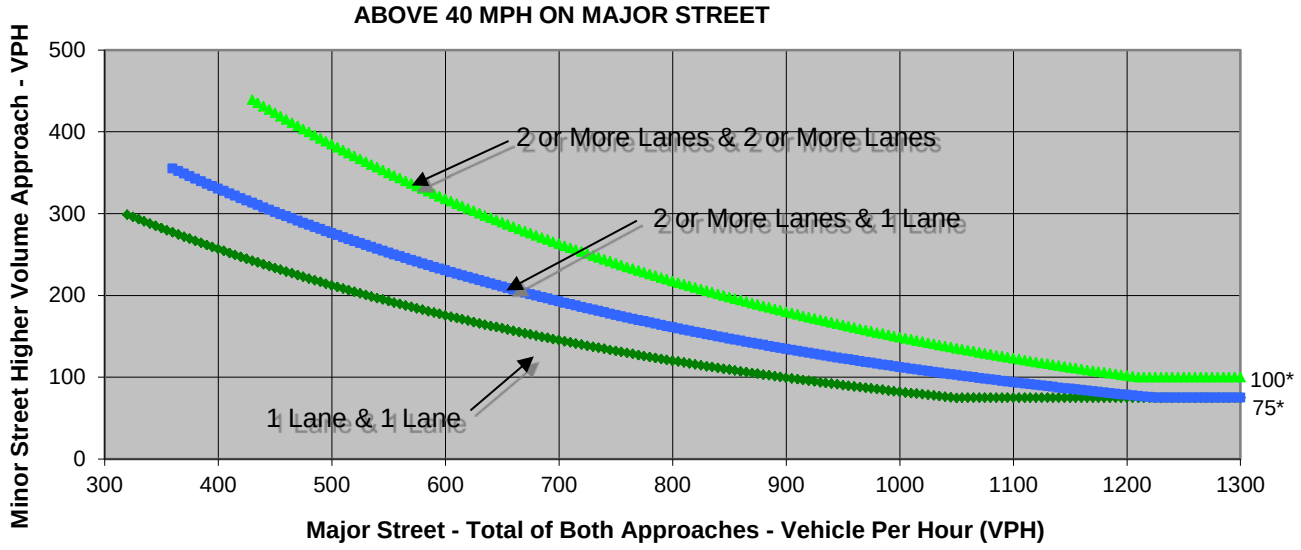
	NB	SB	EB	WB
Left	550	10	160	10
Through	350	600	100	180
Right	20	270	200	10
Total	920	880	460	200

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**1,800**	**460**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

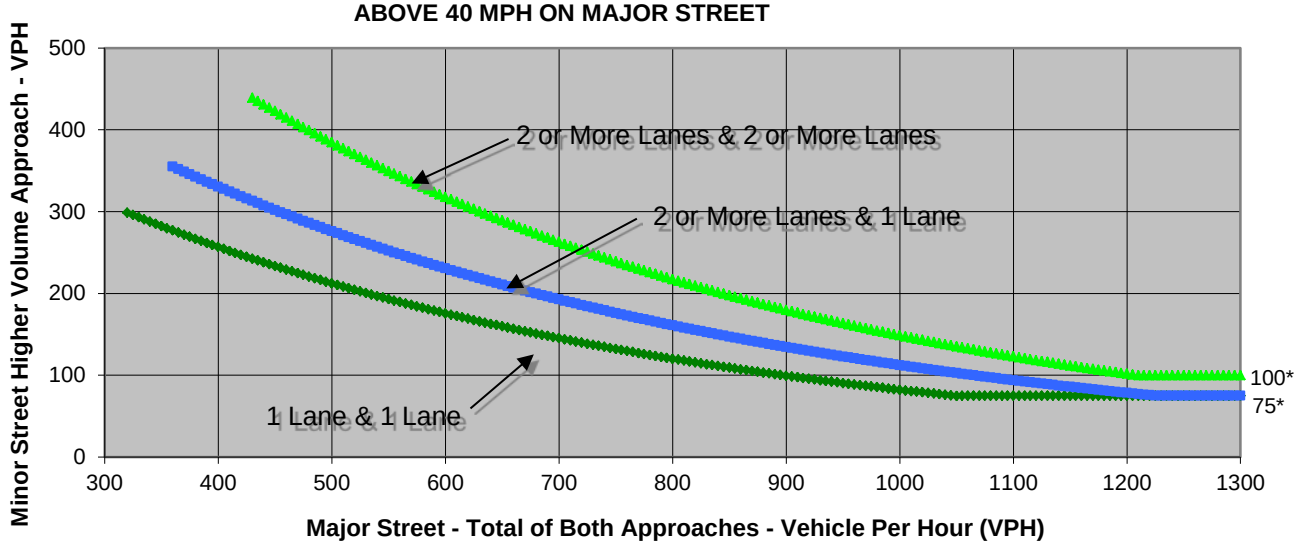
	NB	SB	EB	WB
Left	330	10	170	20
Through	670	580	300	190
Right	40	150	690	20
Total	1,040	740	1,160	230

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**1,780**	**1,160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

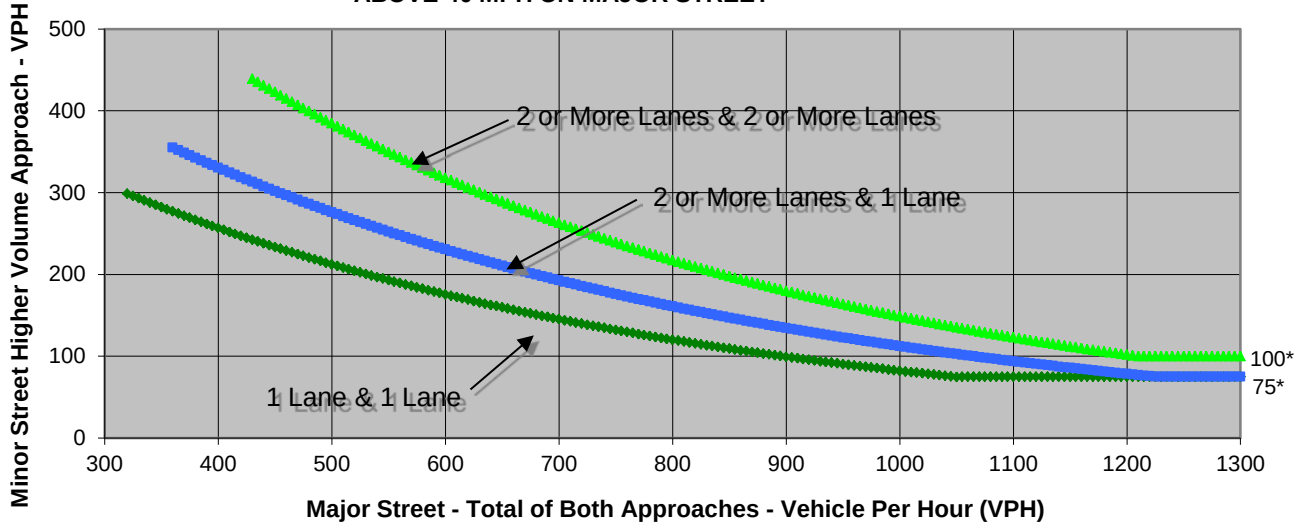
	NB	SB	EB	WB
Left	550	10	160	10
Through	350	600	100	180
Right	20	270	200	10
Total	920	880	460	200

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**660**	**920**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

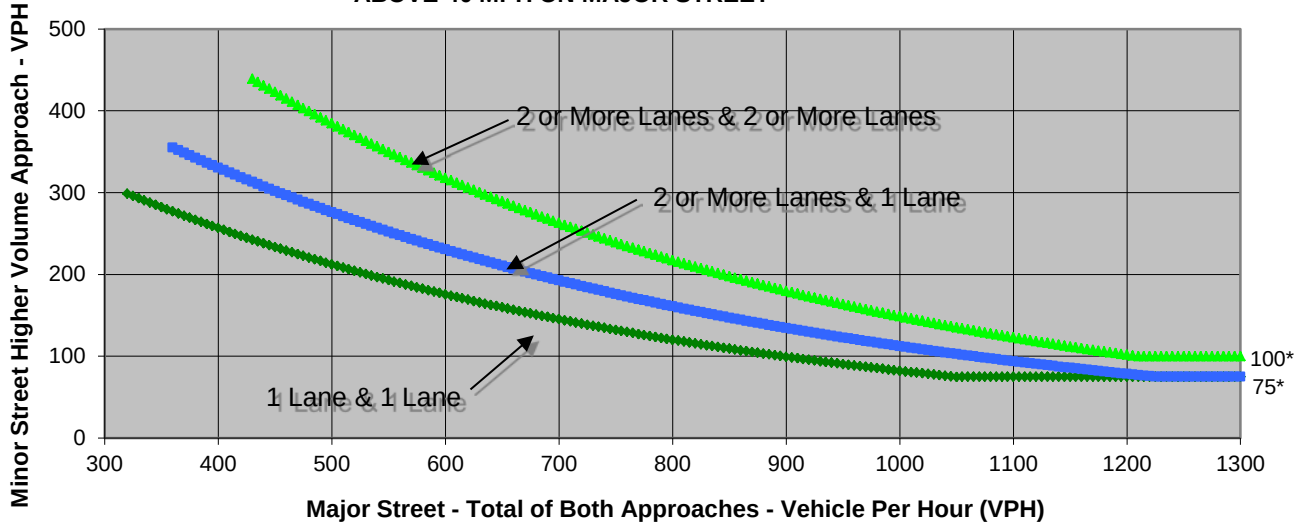
	NB	SB	EB	WB
Left	330	10	170	20
Through	670	580	300	290
Right	40	150	690	20
Total	1,040	740	1,160	330

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**1,490**	**1,040**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

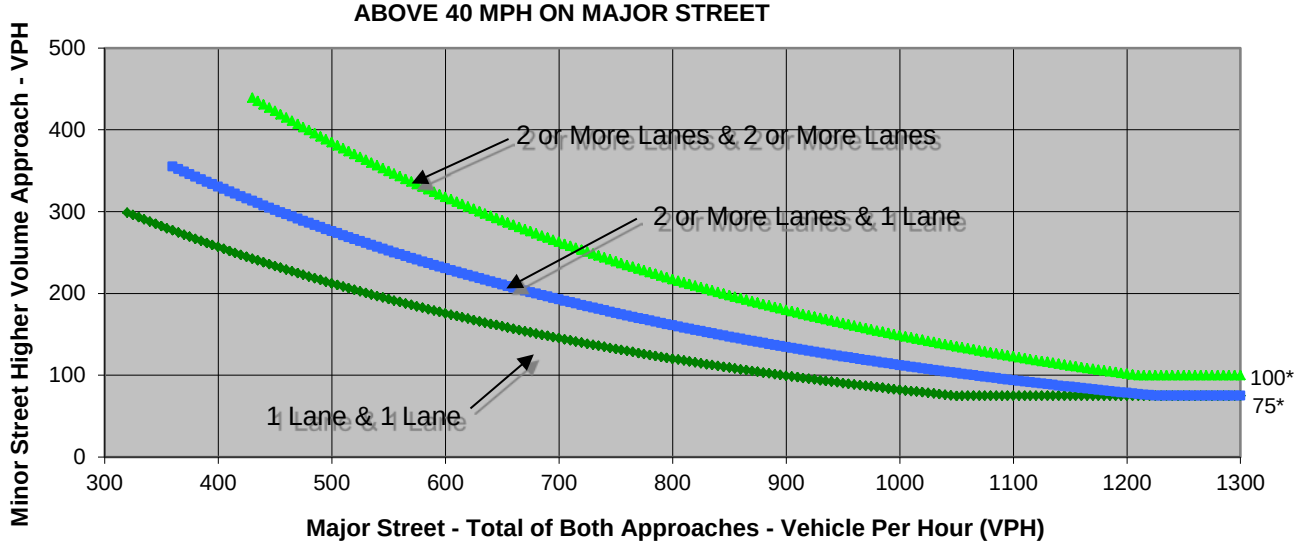
	NB	SB	EB	WB
Left	570	10	160	10
Through	370	610	110	210
Right	20	290	200	10
Total	960	910	470	230

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**1,870**	**470**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

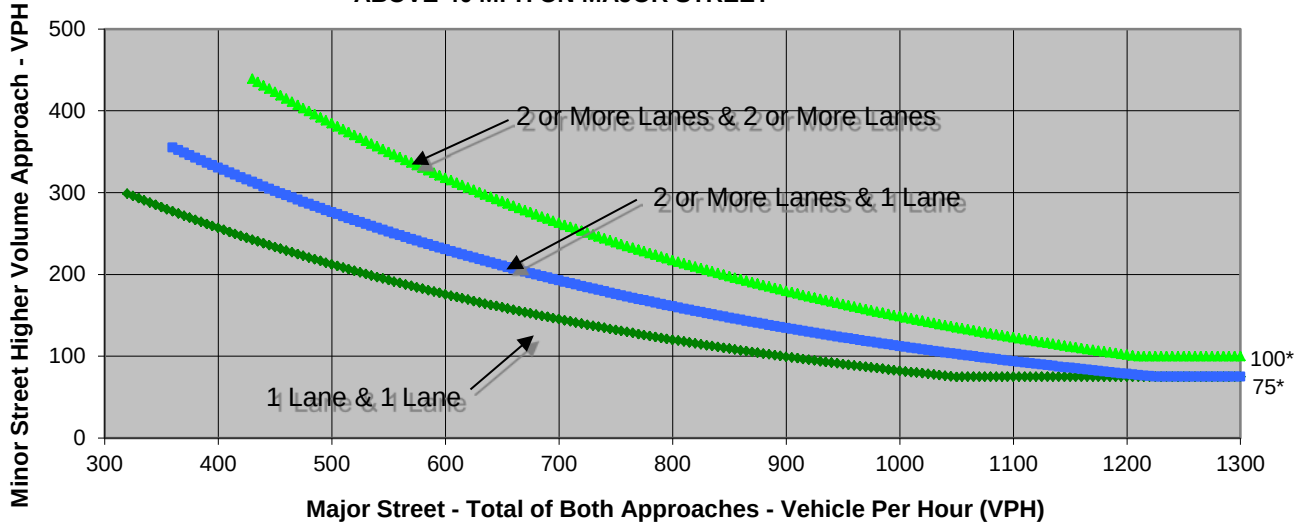
	NB	SB	EB	WB
Left	340	20	210	20
Through	680	600	290	200
Right	40	160	650	20
Total	1,060	780	1,150	240

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**1,840**	**1,150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

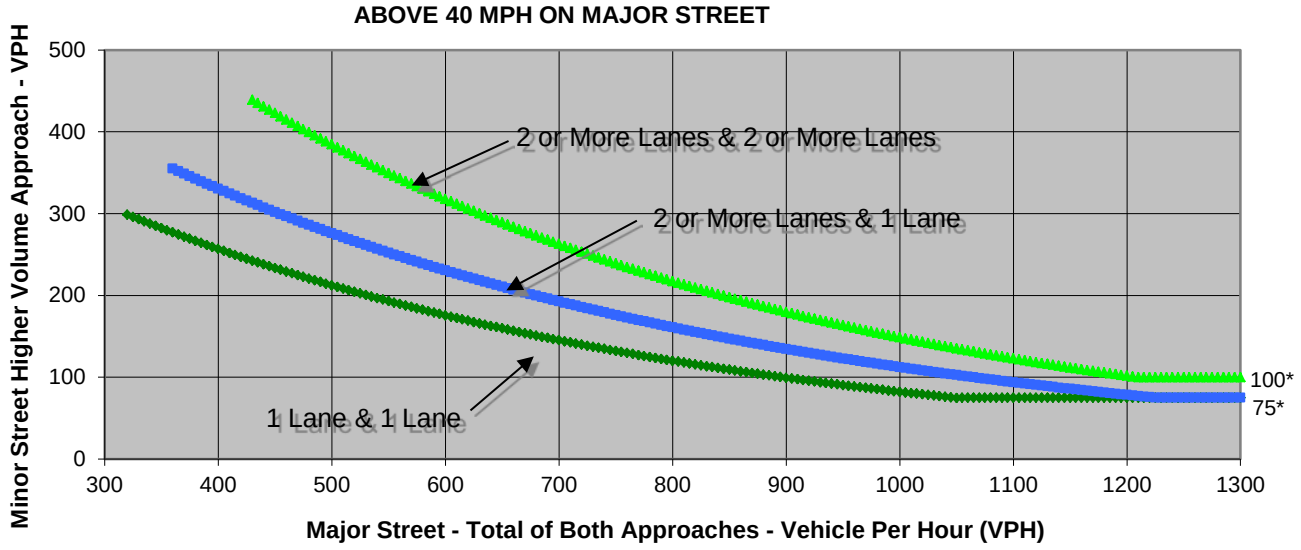
	NB	SB	EB	WB
Left	570	10	160	10
Through	370	610	110	210
Right	20	290	200	10
Total	960	910	470	230

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**1,870**	**470**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

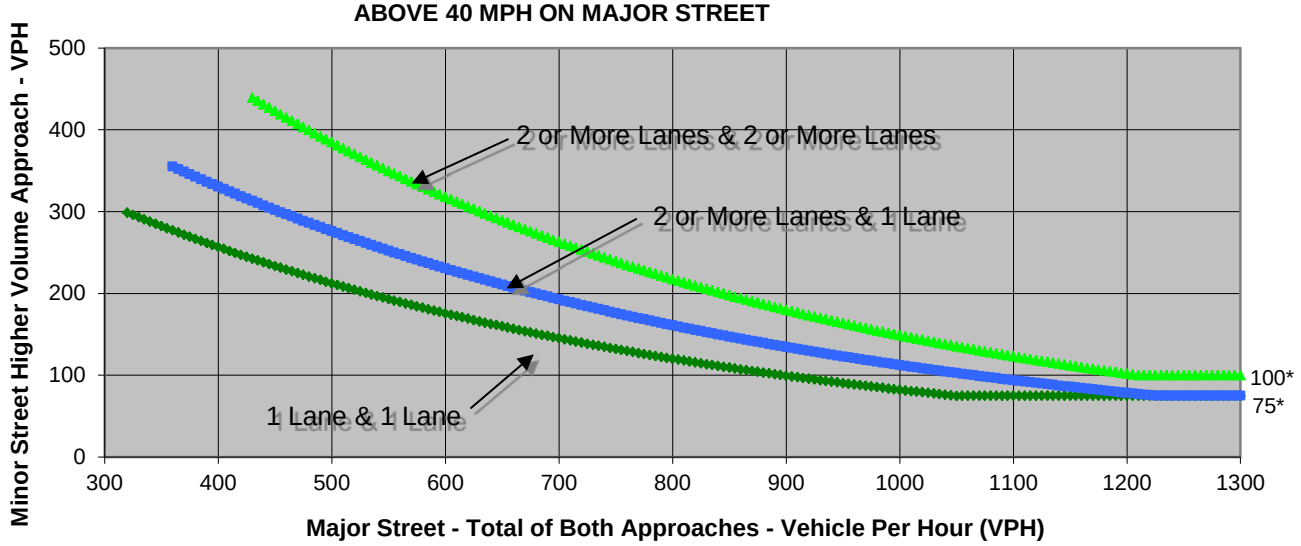
	NB	SB	EB	WB
Left	340	20	210	20
Through	680	600	290	200
Right	40	160	650	20
Total	1,060	780	1,150	240

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**1,840**	**1,150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

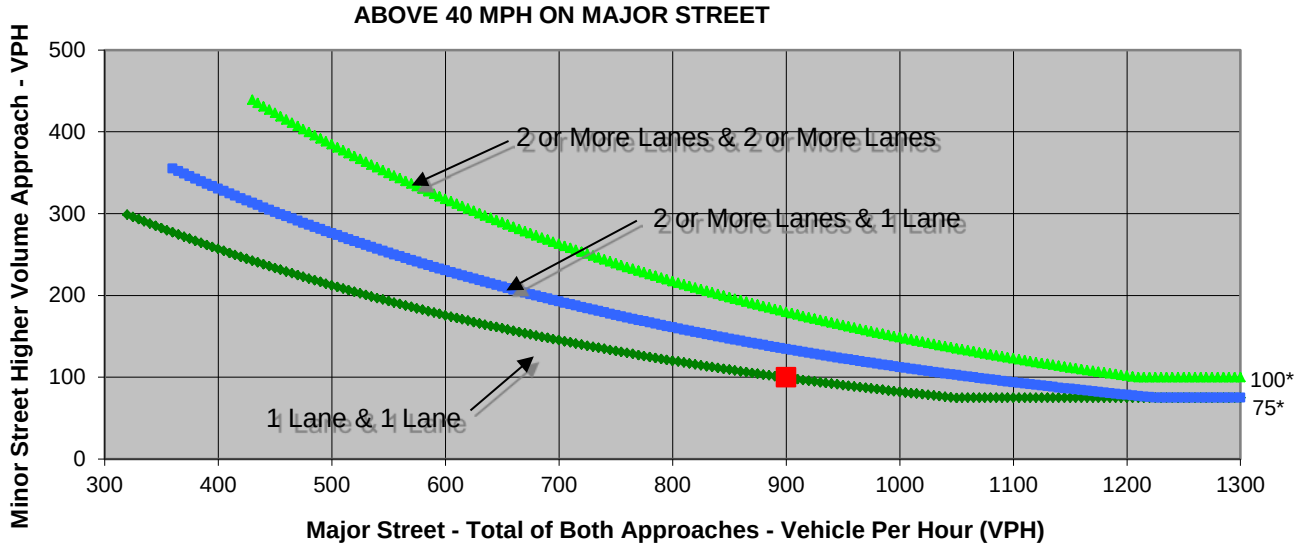
	NB	SB	EB	WB
Left	10	20	60	80
Through	300	400	10	10
Right	100	70	30	10
Total	410	490	100	100

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**900**	**100**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

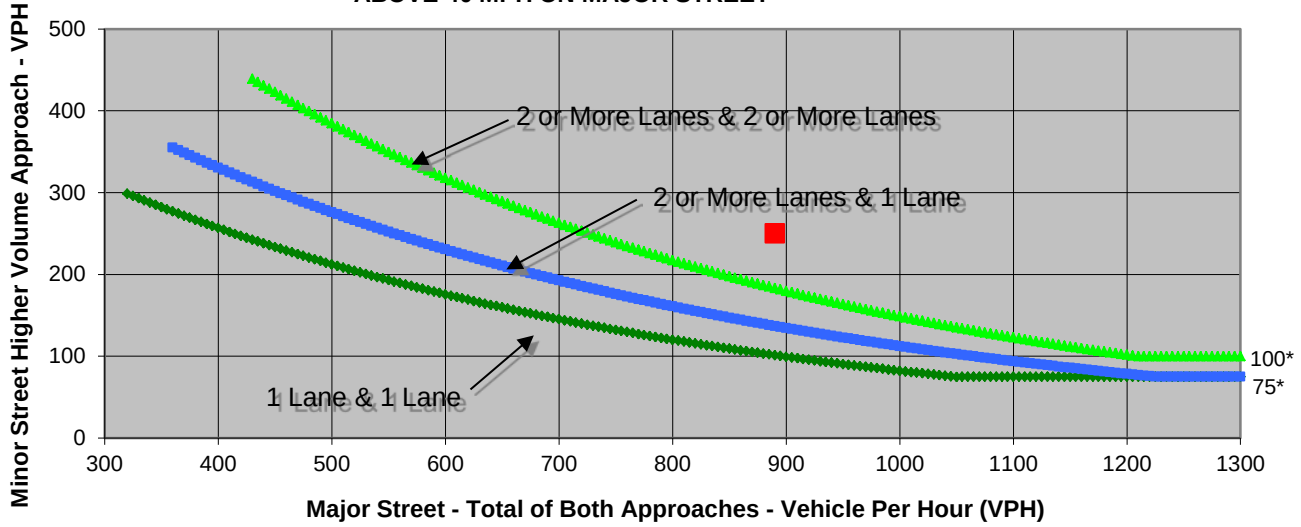
	NB	SB	EB	WB
Left	20	40	100	210
Through	430	280	10	10
Right	30	90	20	30
Total	480	410	130	250

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**890**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

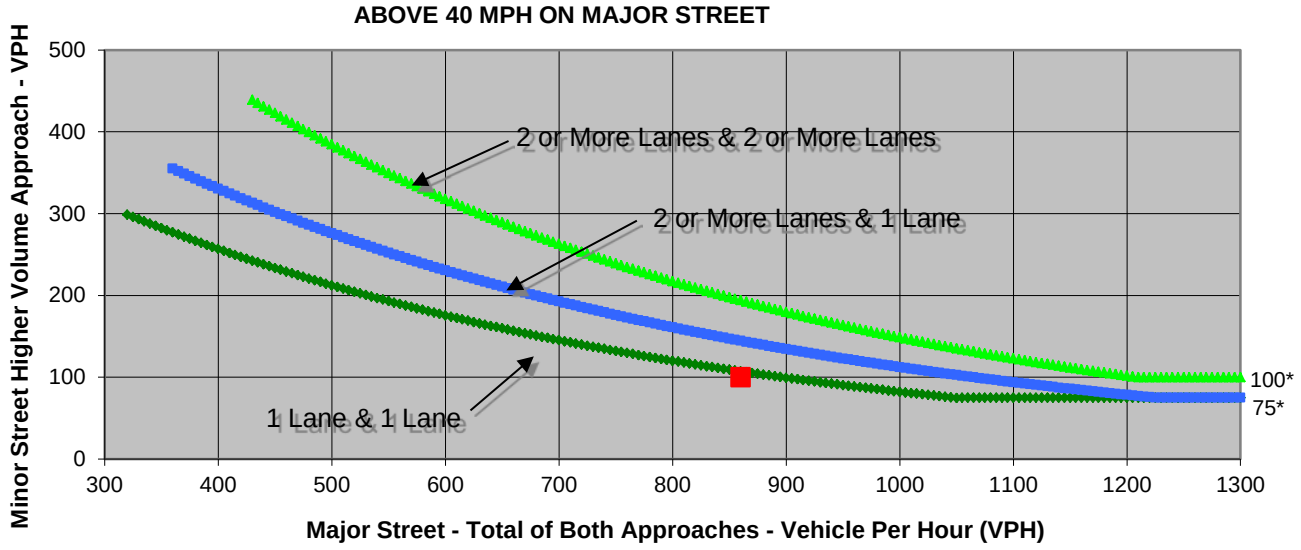
	NB	SB	EB	WB
Left	10	20	60	80
Through	310	400	10	10
Right	100	20	30	10
Total	420	440	100	100

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**860**	**100**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

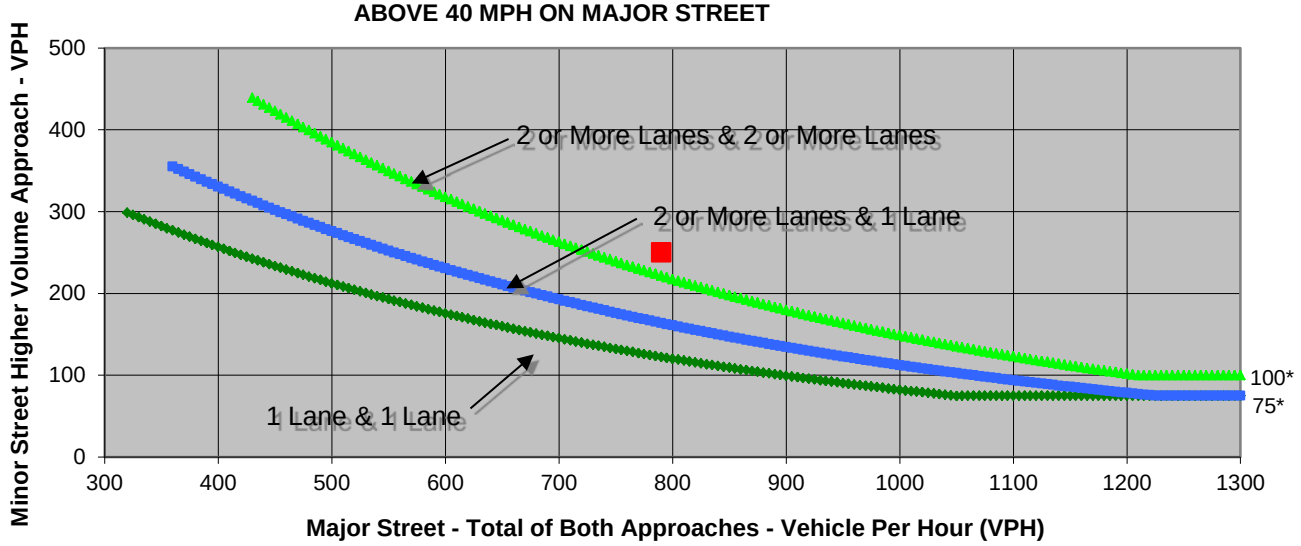
	NB	SB	EB	WB
Left	30	40	60	210
Through	410	240	10	10
Right	30	40	10	30
Total	470	320	80	250

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**790**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

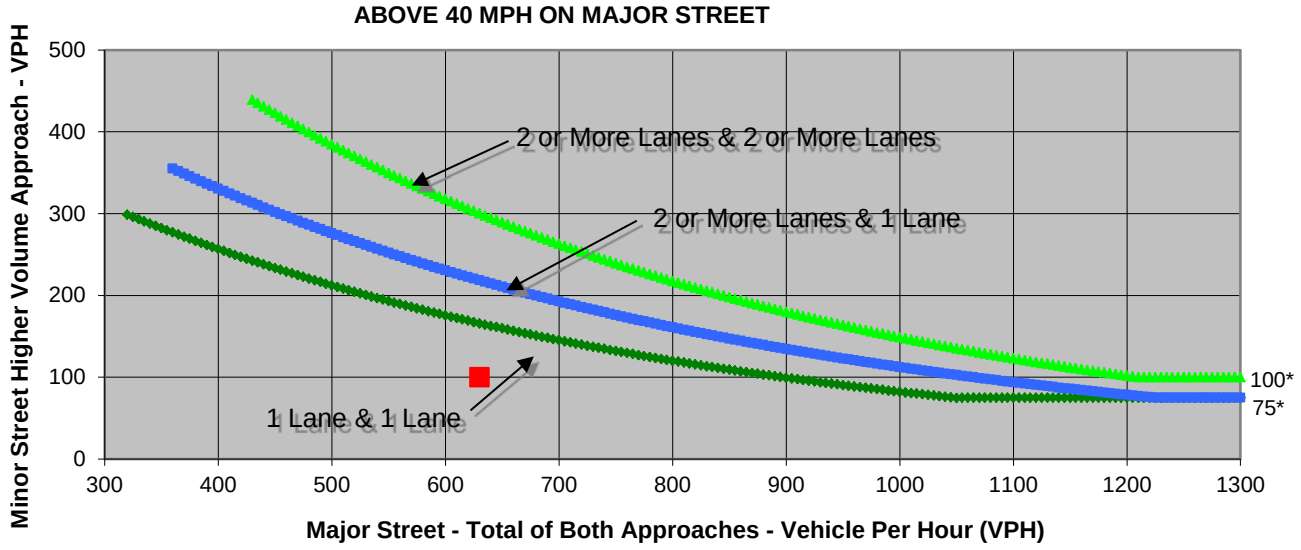
	NB	SB	EB	WB
Left	10	20	30	80
Through	210	340	10	10
Right	10	40	40	10
Total	230	400	80	100

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**630**	**100**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

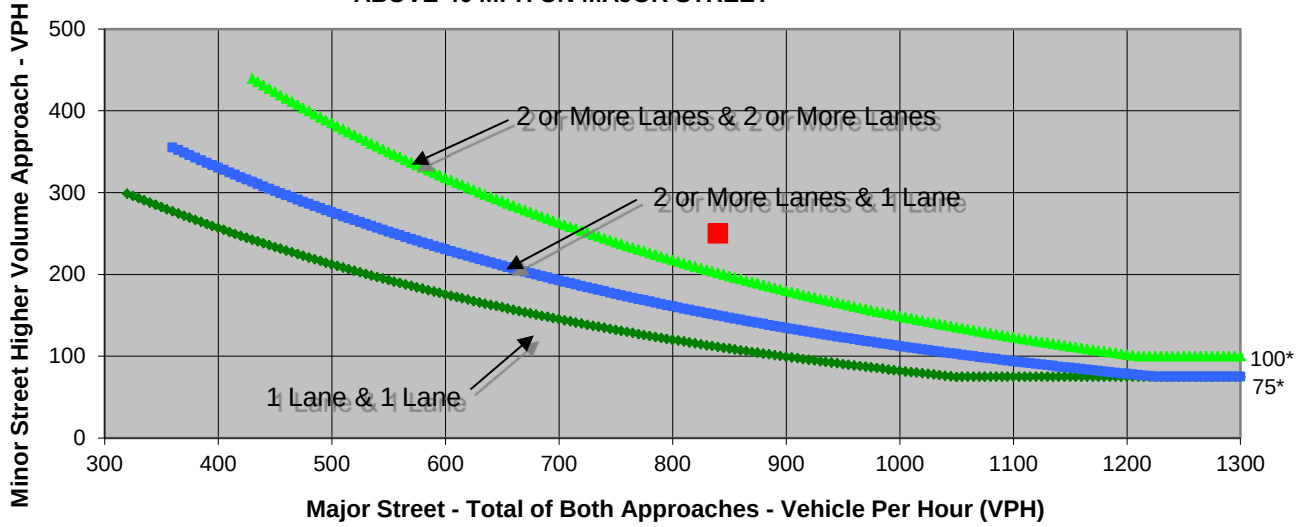
	NB	SB	EB	WB
Left	30	40	60	210
Through	450	250	10	10
Right	30	40	10	30
Total	510	330	80	250

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**840**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

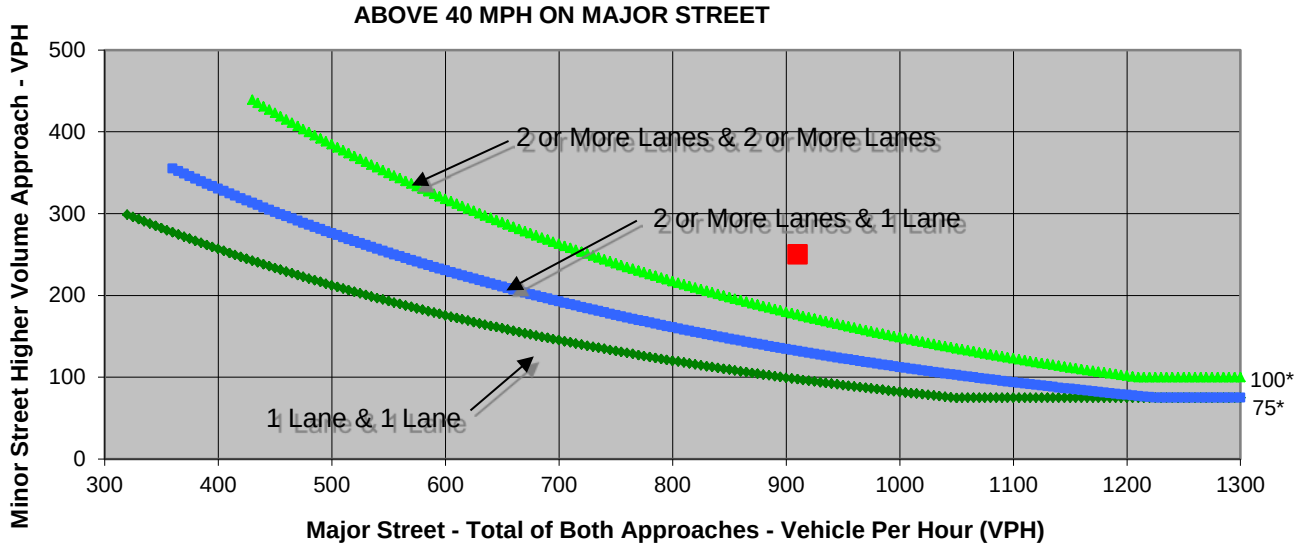
	NB	SB	EB	WB
Left	20	40	100	210
Through	430	300	10	10
Right	30	90	20	30
Total	480	430	130	250

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**910**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	Claribel Realigned (N)
Minor Street	Davis Road

Turn Movement Volumes

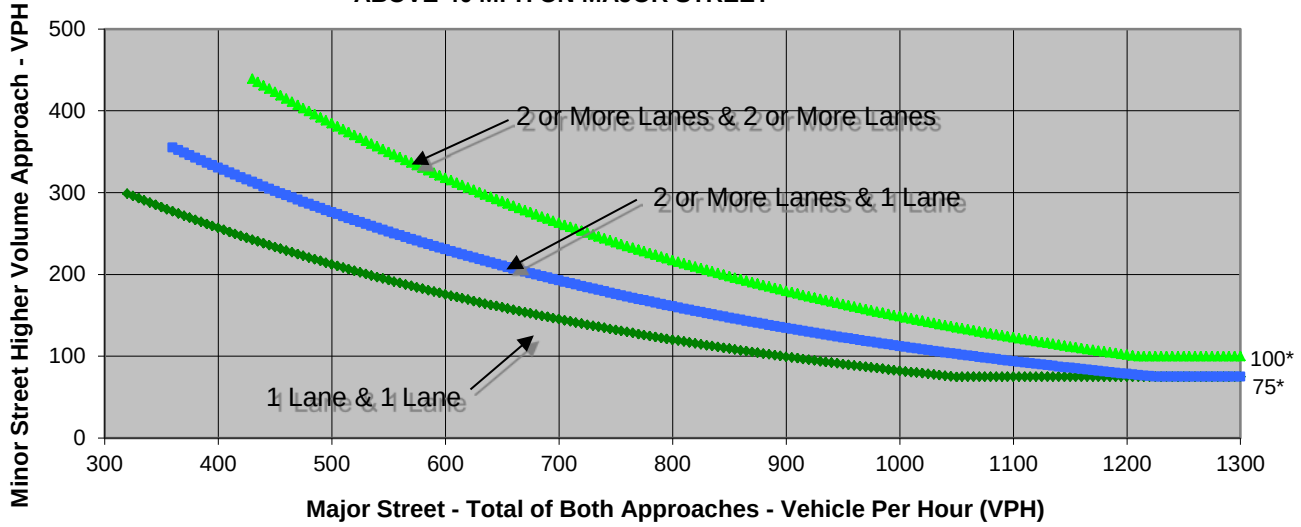
	NB	SB	EB	WB
Left	10	10	10	10
Through	60	40	10	10
Right	10	10	10	10
Total	80	60	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis Road	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**140**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Claribel Realigned (N)
Minor Street	Davis

Turn Movement Volumes

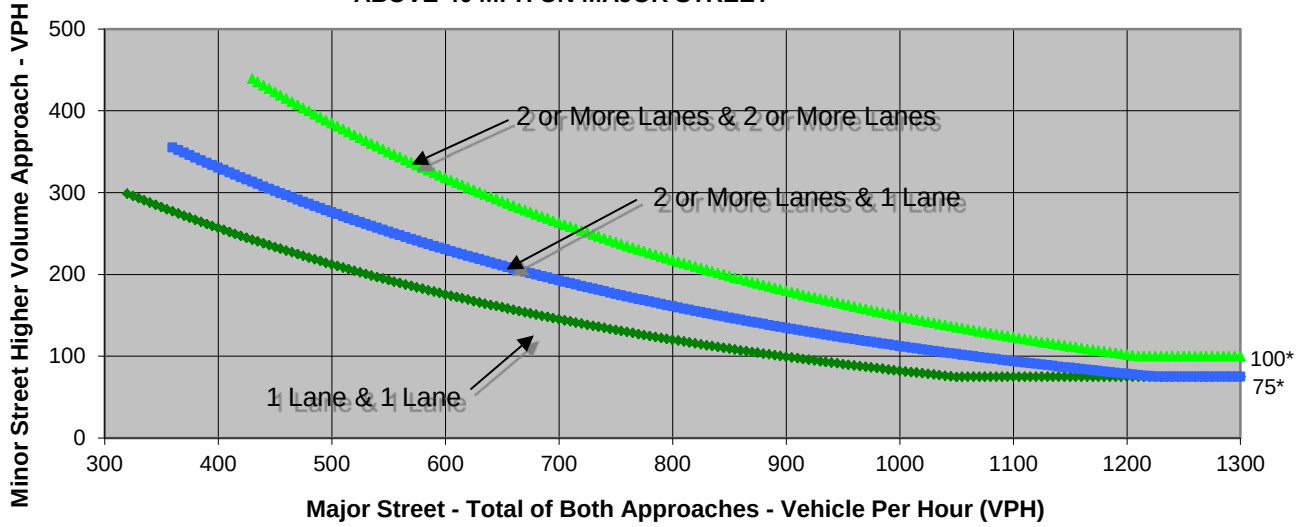
	NB	SB	EB	WB
Left	10	10	10	10
Through	60	60	10	10
Right	10	10	10	10
Total	80	80	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**160**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Claribel Realigned (N)
Minor Street	Davis

Turn Movement Volumes

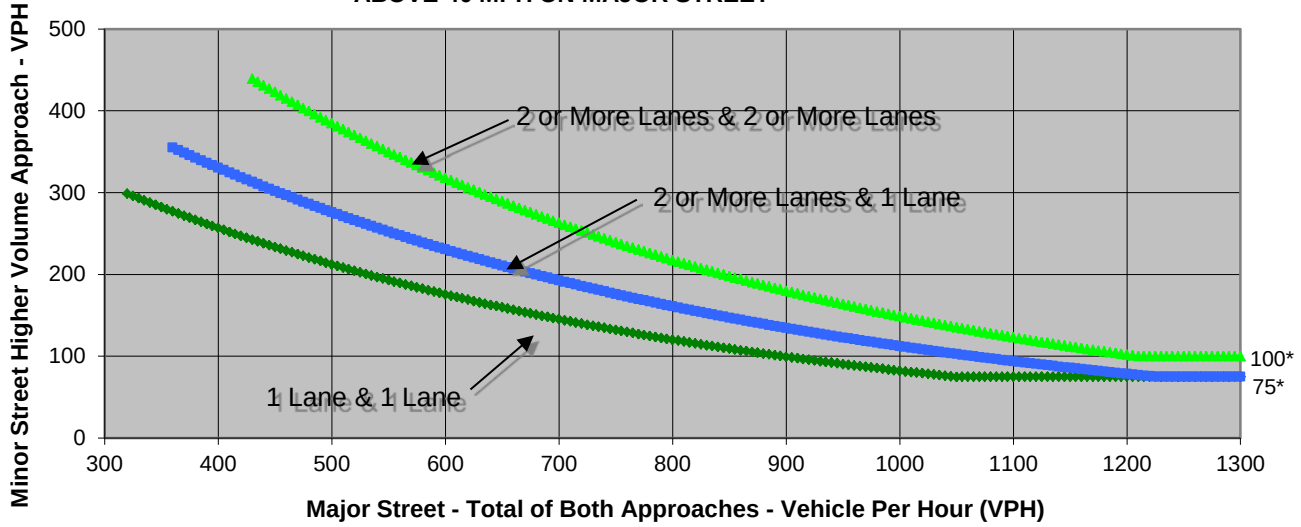
	NB	SB	EB	WB
Left	10	10	10	10
Through	60	40	10	10
Right	0	10	10	10
Total	70	60	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**130**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Claribel Realigned (N)
Minor Street	Davis

Turn Movement Volumes

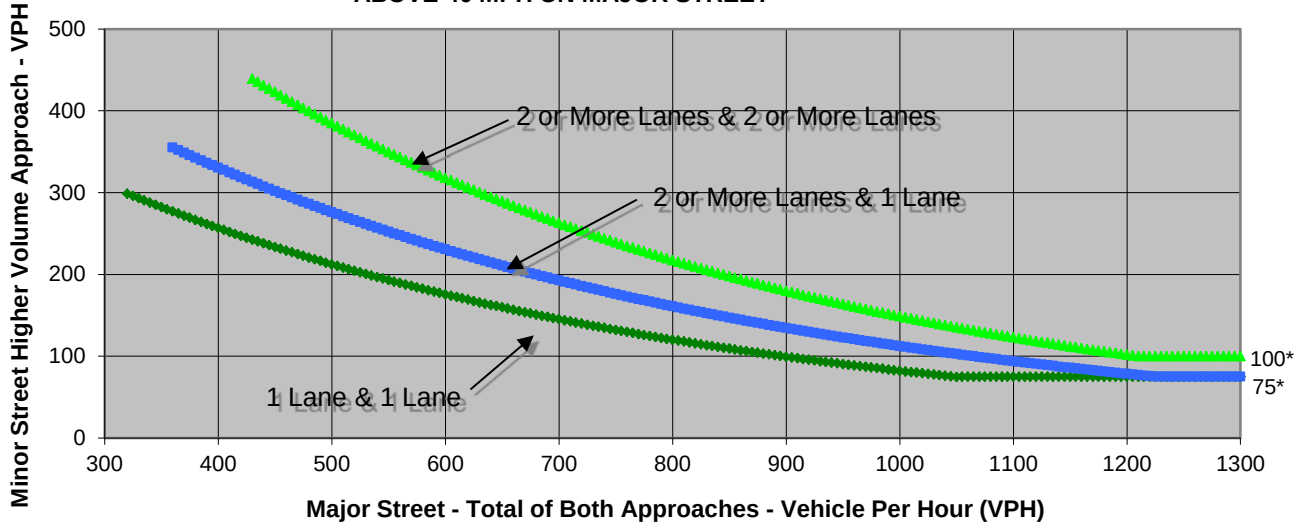
	NB	SB	EB	WB
Left	10	10	10	10
Through	60	60	10	10
Right	10	10	10	10
Total	80	80	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**160**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Claribel Realigned (N)
Minor Street	Davis

Turn Movement Volumes

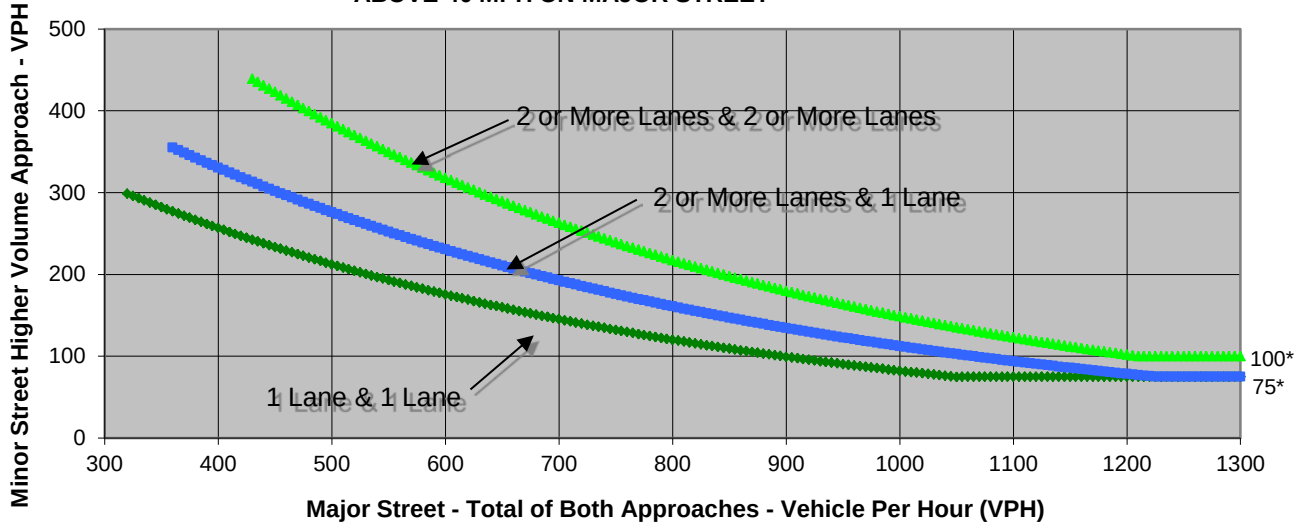
	NB	SB	EB	WB
Left	10	10	10	10
Through	80	70	10	10
Right	10	10	10	10
Total	100	90	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**190**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	Claribel Realigned (N)
Minor Street	Davis

Turn Movement Volumes

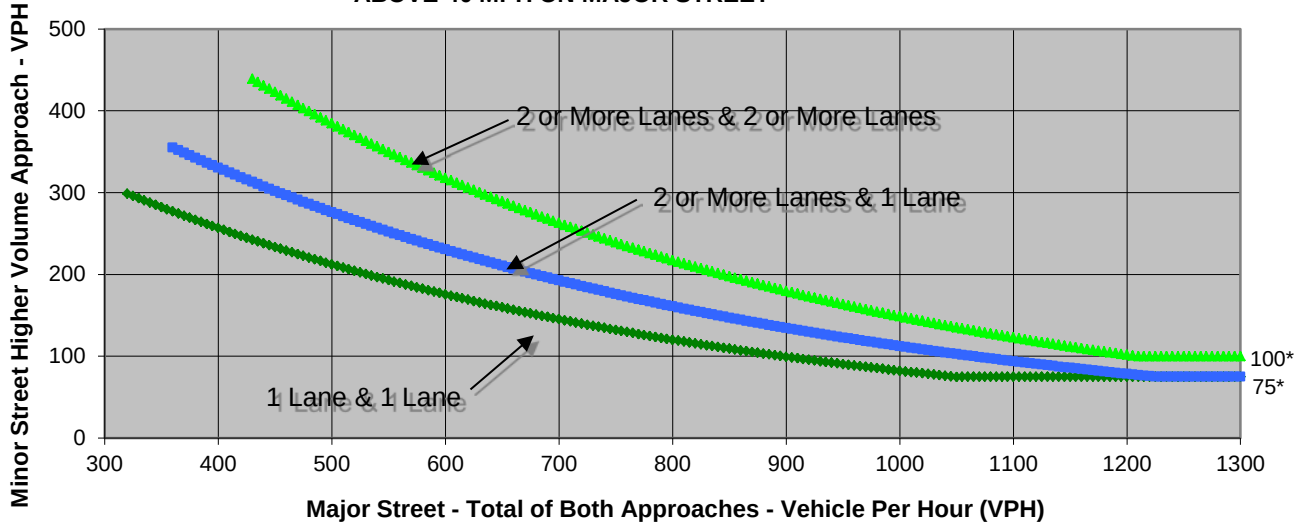
	NB	SB	EB	WB
Left	10	10	10	10
Through	110	100	10	10
Right	10	10	10	10
Total	130	120	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**250**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	Claribel Realigned (N)
Minor Street	Davis

Turn Movement Volumes

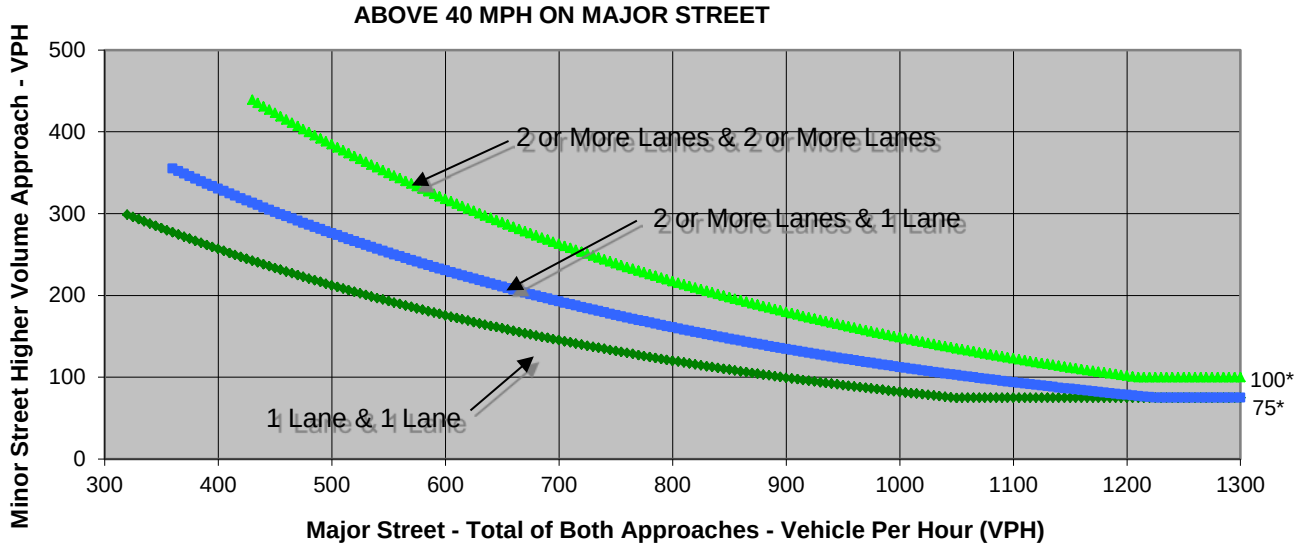
	NB	SB	EB	WB
Left	10	10	10	10
Through	80	70	10	10
Right	10	10	10	10
Total	100	90	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**190**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	Claribel Realigned (N)
Minor Street	Davis

Turn Movement Volumes

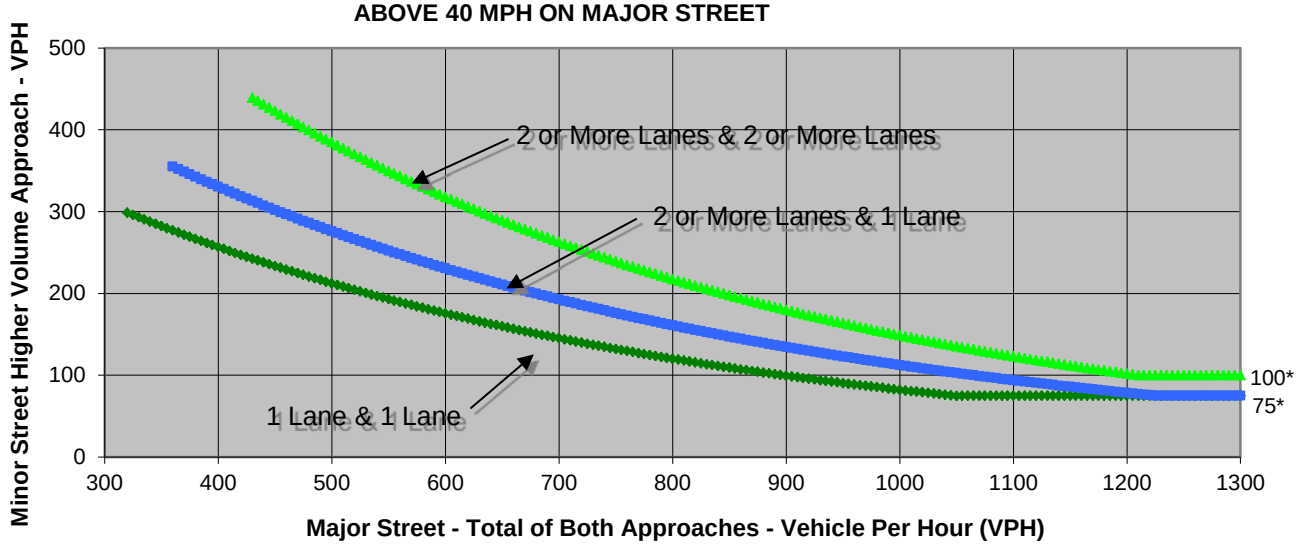
	NB	SB	EB	WB
Left	10	10	10	10
Through	110	100	10	10
Right	10	10	10	10
Total	130	120	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**250**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

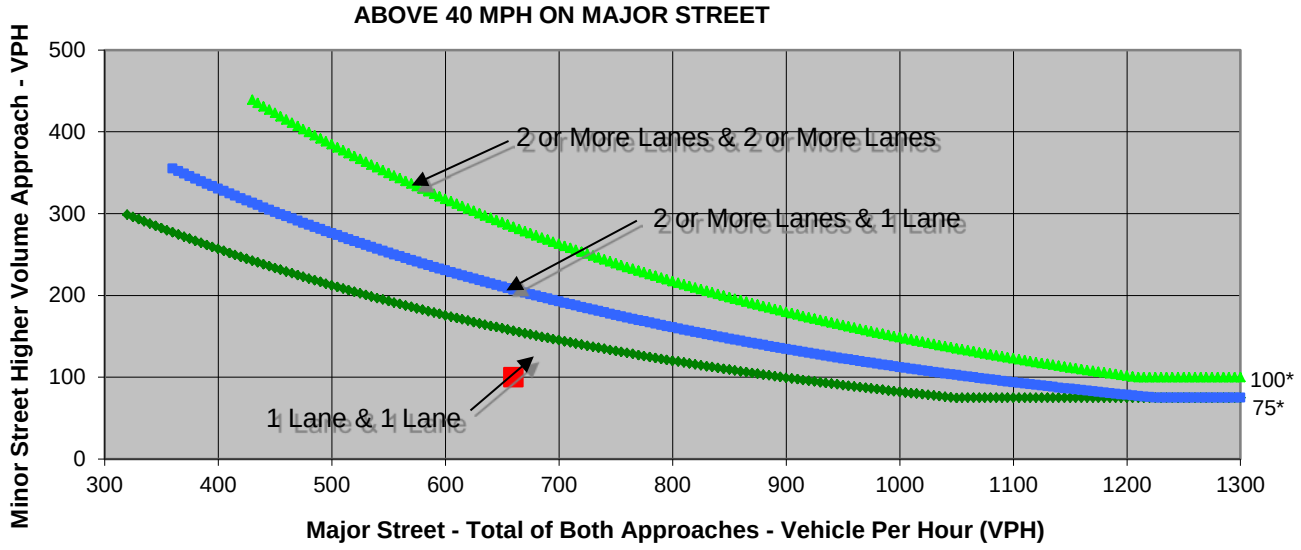
	NB	SB	EB	WB
Left	10	20	30	80
Through	190	330	10	10
Right	100	10	40	10
Total	300	360	80	100

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**660**	**100**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Claribel Road
Minor Street	Bentley Road

Turn Movement Volumes

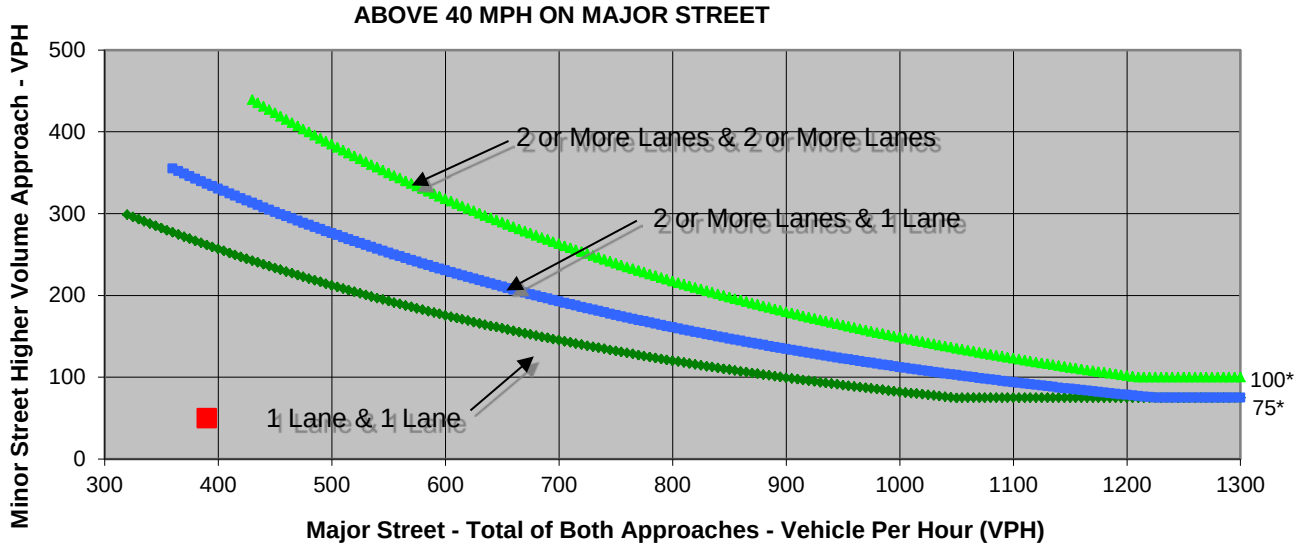
	NB	SB	EB	WB
Left	10	20	10	30
Through	30	10	210	110
Right	10	10	10	20
Total	50	40	230	160

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Bentley Road	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**390**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	Claribel Road
Minor Street	Bentley Road

Turn Movement Volumes

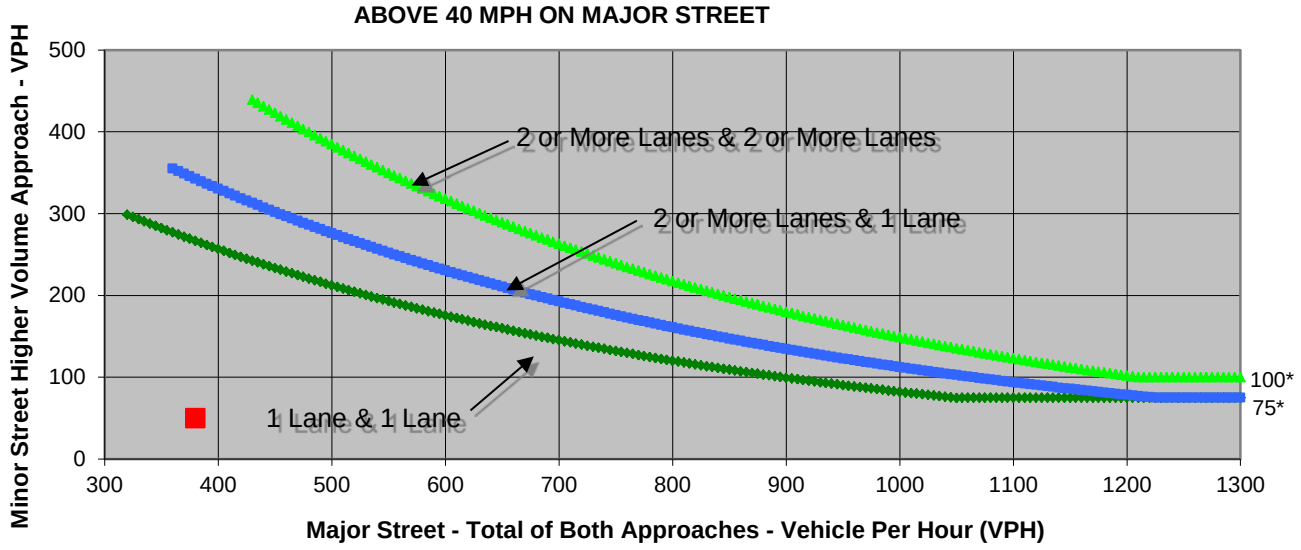
	NB	SB	EB	WB
Left	20	10	10	20
Through	10	30	100	220
Right	10	10	10	20
Total	40	50	120	260

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Bentley Road	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**380**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Claribel Road
Minor Street	Bentley Road

Turn Movement Volumes

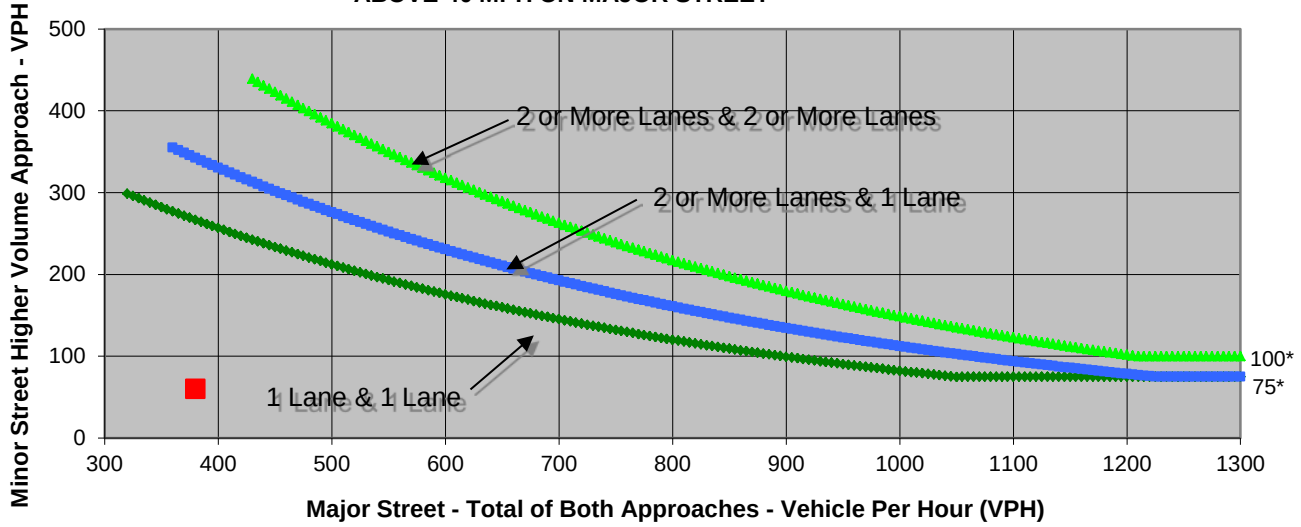
	NB	SB	EB	WB
Left	20	10	10	20
Through	10	30	100	220
Right	10	20	10	20
Total	40	60	120	260

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Bentley Road	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**380**	**60**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Claribel Road
Minor Street	Bentley Road

Turn Movement Volumes

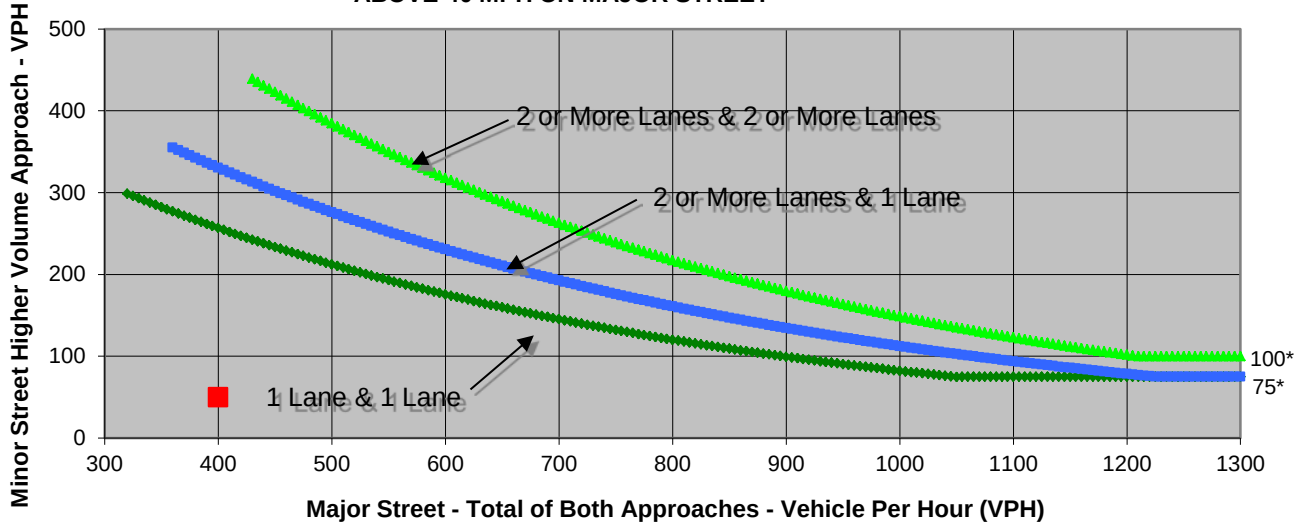
	NB	SB	EB	WB
Left	10	20	10	30
Through	30	10	210	110
Right	10	10	20	20
Total	50	40	240	160

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Bentley Road	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**400**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

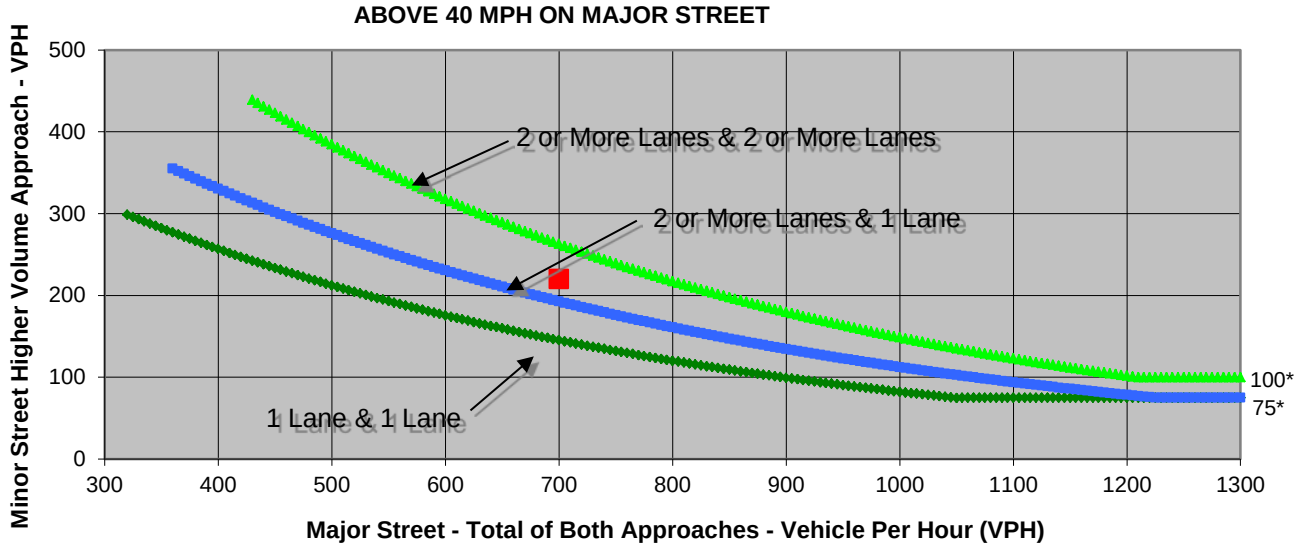
	NB	SB	EB	WB
Left	20	20	30	10
Through	270	360	50	50
Right	20	10	140	30
Total	310	390	220	90

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**NO**
Traffic Volume (VPH) *	**700**	**220**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

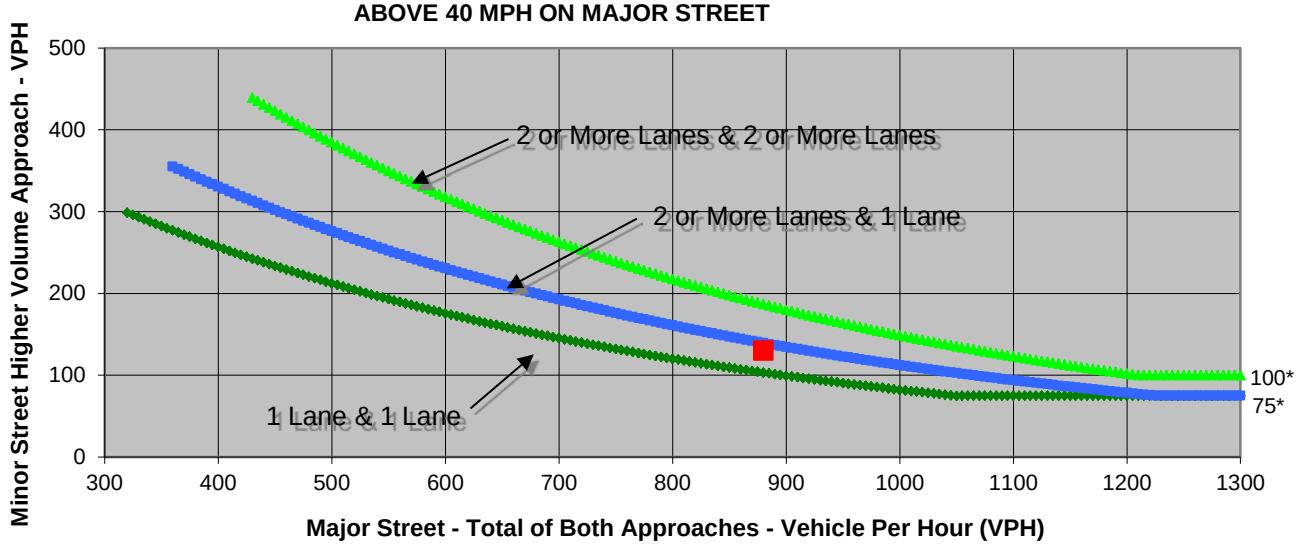
	NB	SB	EB	WB
Left	130	30	20	20
Through	360	310	40	60
Right	30	20	70	20
Total	520	360	130	100

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**NO**
Traffic Volume (VPH) *	**880**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

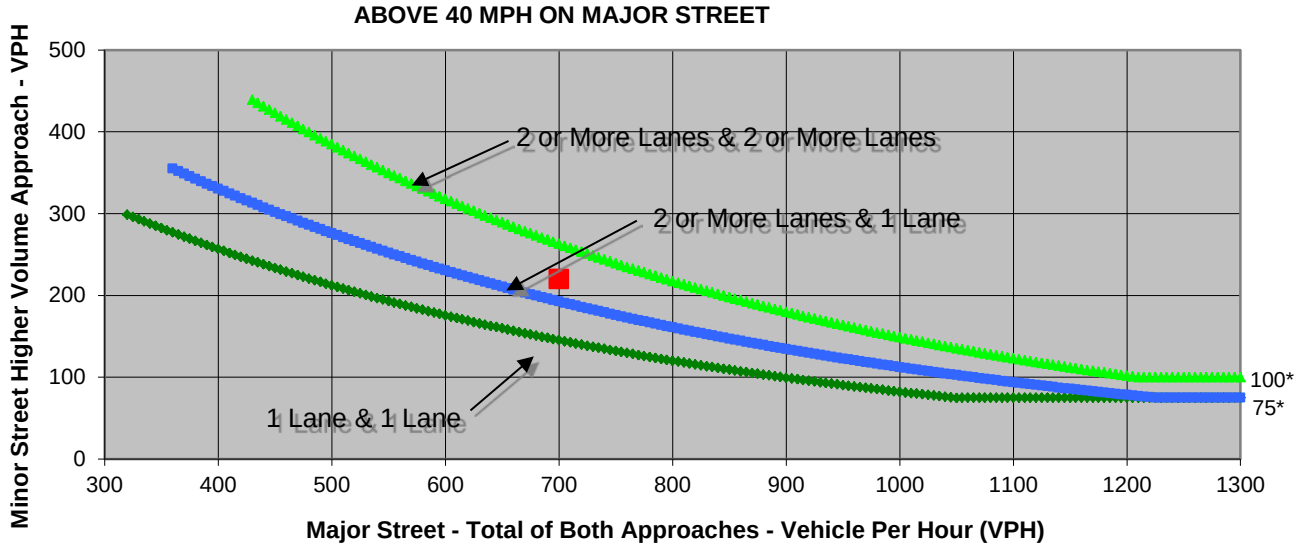
	NB	SB	EB	WB
Left	20	20	30	10
Through	270	360	50	50
Right	20	10	140	30
Total	310	390	220	90

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**NO**
Traffic Volume (VPH) *	**700**	**220**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

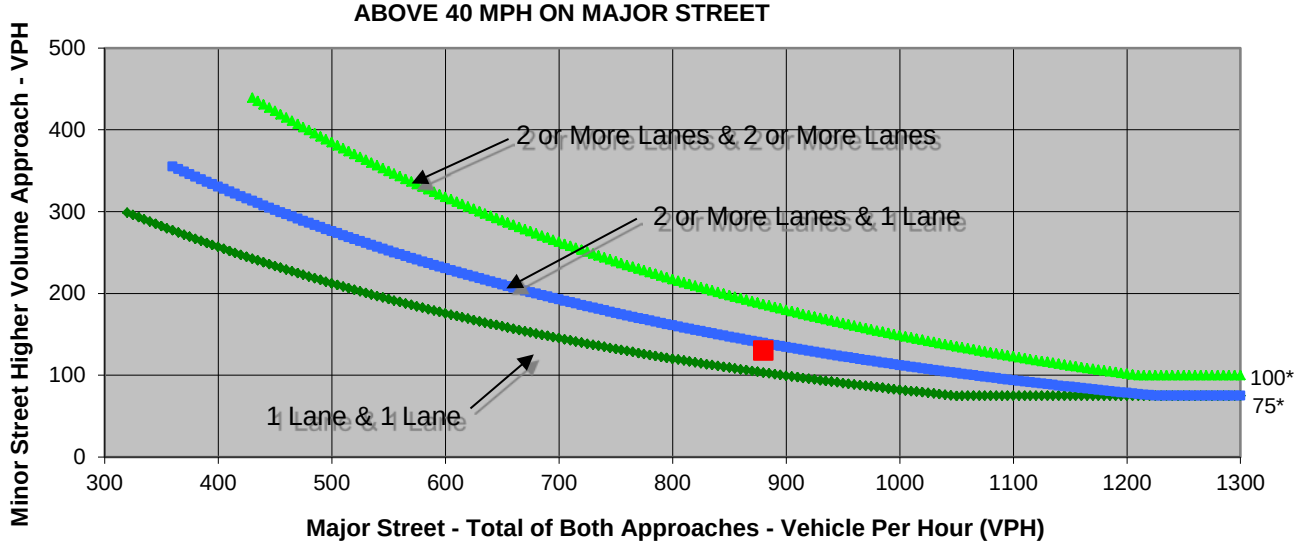
	NB	SB	EB	WB
Left	130	30	20	20
Through	360	310	40	60
Right	30	20	70	20
Total	520	360	130	100

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**NO**
Traffic Volume (VPH) *	**880**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

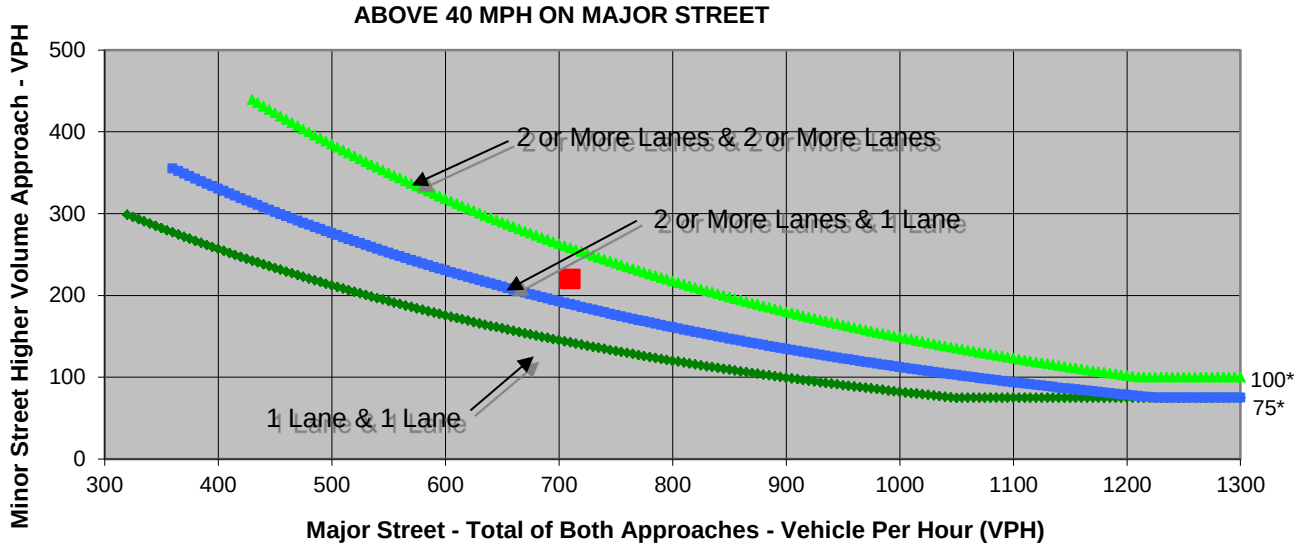
	NB	SB	EB	WB
Left	20	20	30	40
Through	270	370	50	50
Right	20	10	140	30
Total	310	400	220	120

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**NO**
Traffic Volume (VPH) *	**710**	**220**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

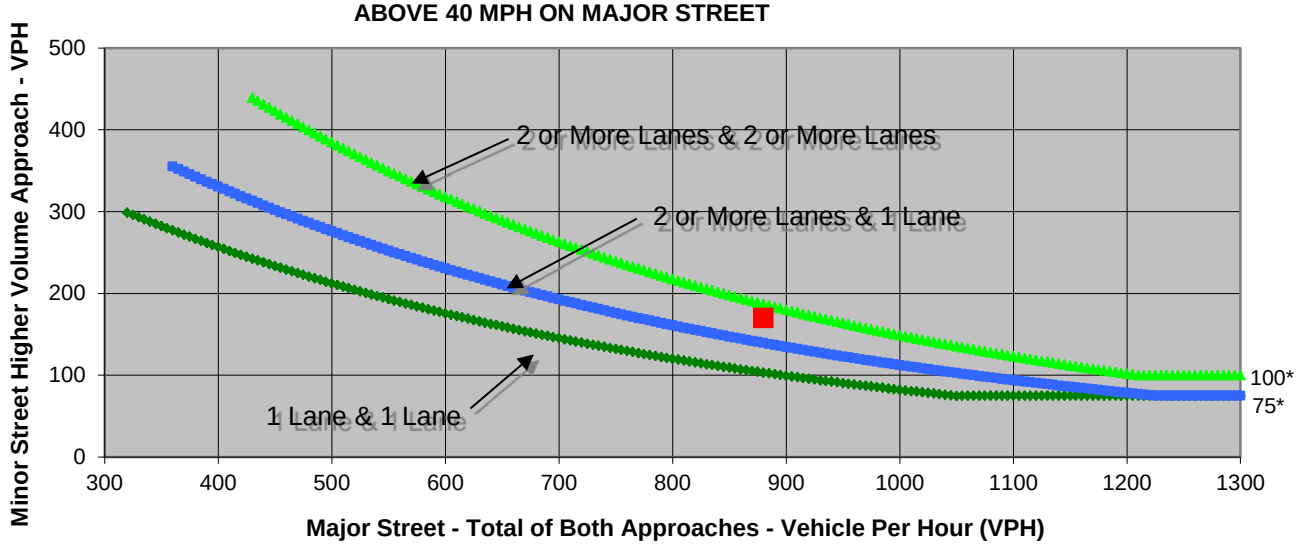
	NB	SB	EB	WB
Left	130	30	20	50
Through	370	310	50	60
Right	20	20	100	20
Total	520	360	170	130

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**NO**
Traffic Volume (VPH) *	**880**	**170**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

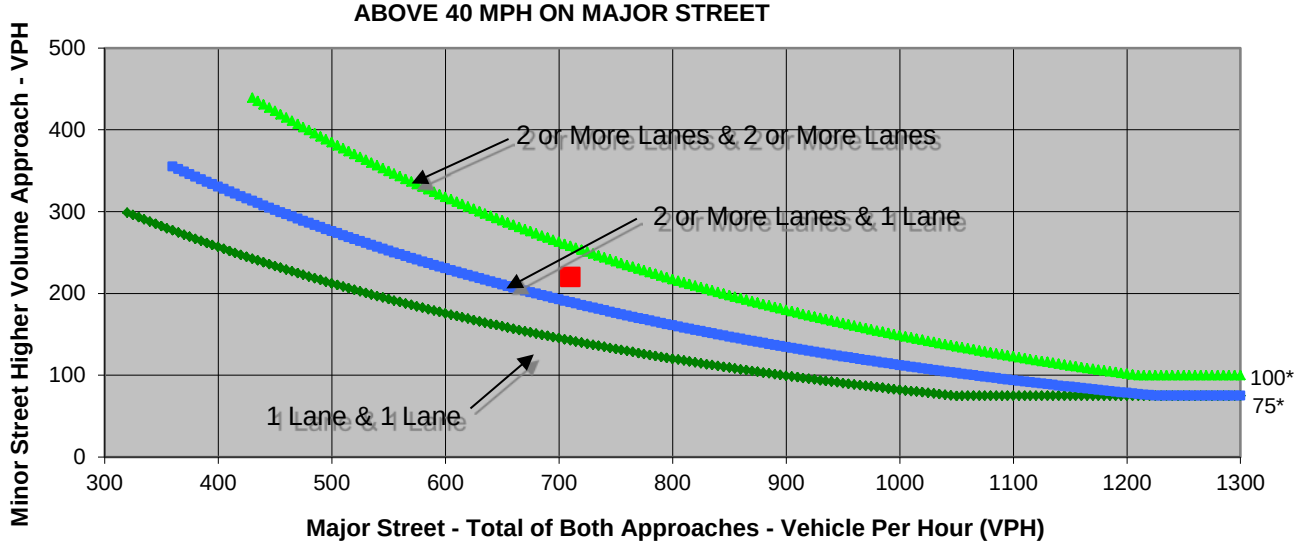
	NB	SB	EB	WB
Left	20	20	30	40
Through	270	370	50	50
Right	20	10	140	30
Total	310	400	220	120

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**NO**
Traffic Volume (VPH) *	**710**	**220**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

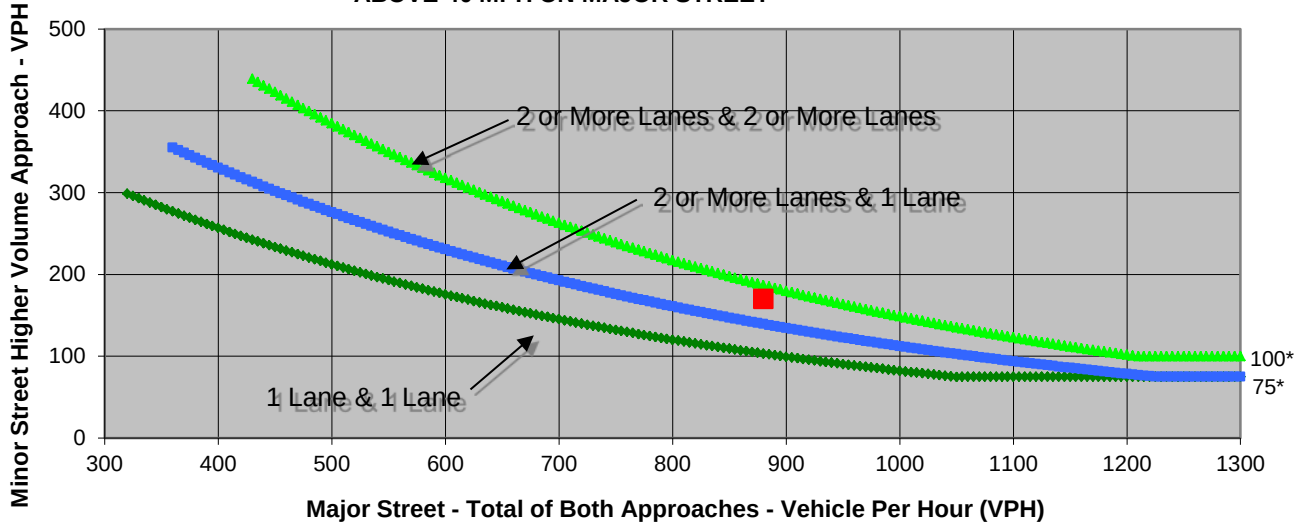
	NB	SB	EB	WB
Left	130	30	20	50
Through	370	310	50	60
Right	20	20	100	20
Total	520	360	170	130

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**NO**
Traffic Volume (VPH) *	**880**	**170**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

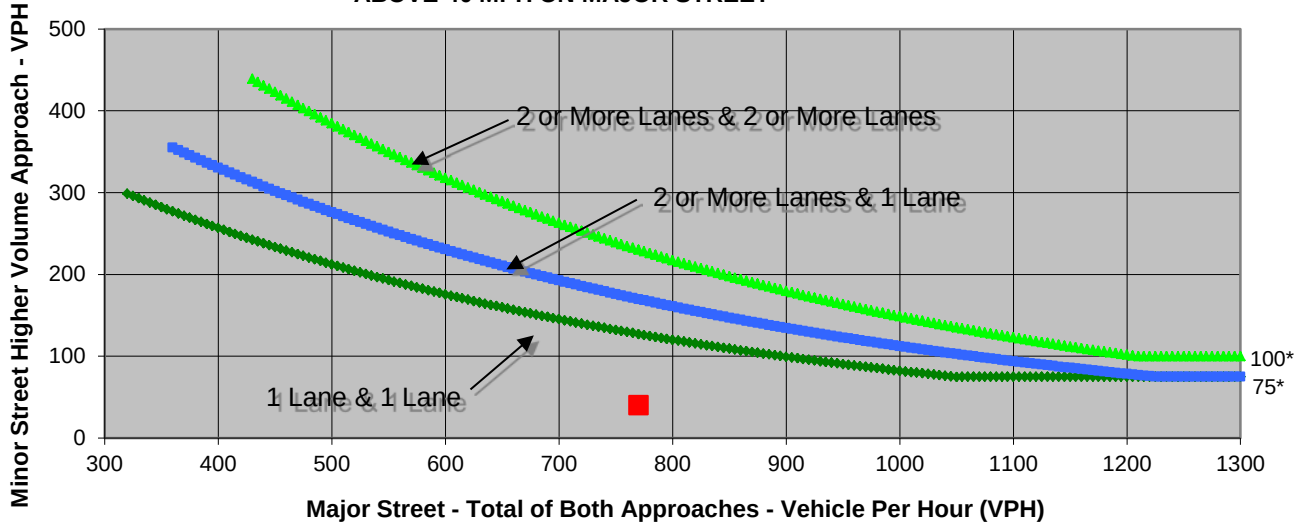
	NB	SB	EB	WB
Left	10	10	10	20
Through	210	520	10	10
Right	10	10	10	10
Total	230	540	30	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**770**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

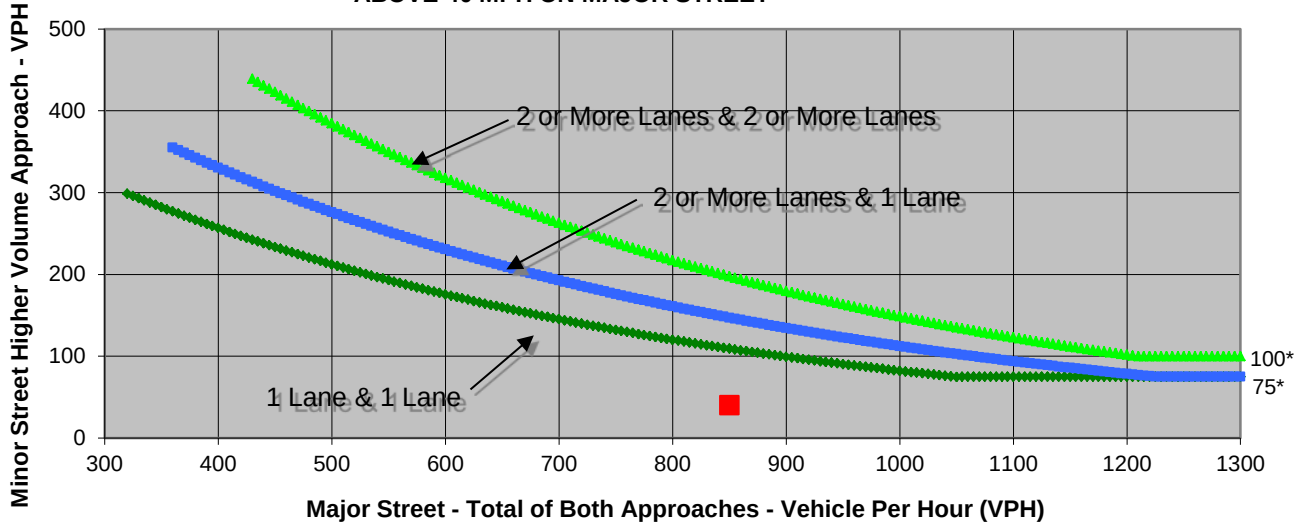
	NB	SB	EB	WB
Left	10	10	10	20
Through	490	310	10	10
Right	20	10	10	10
Total	520	330	30	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**850**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

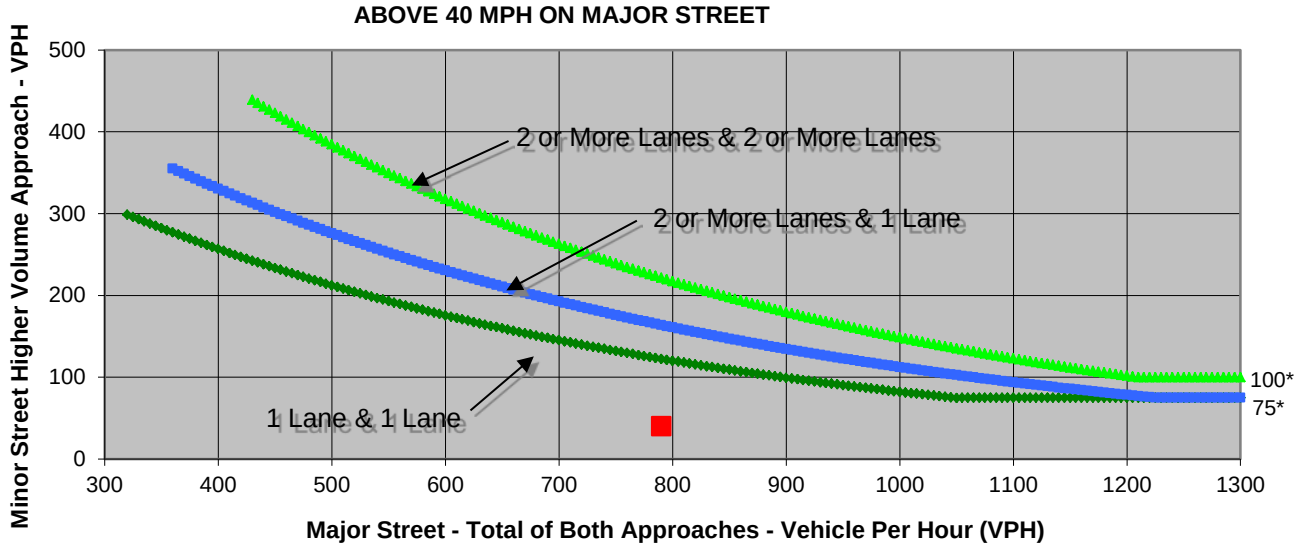
	NB	SB	EB	WB
Left	10	10	10	20
Through	220	530	10	10
Right	10	10	10	10
Total	240	550	30	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**790**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

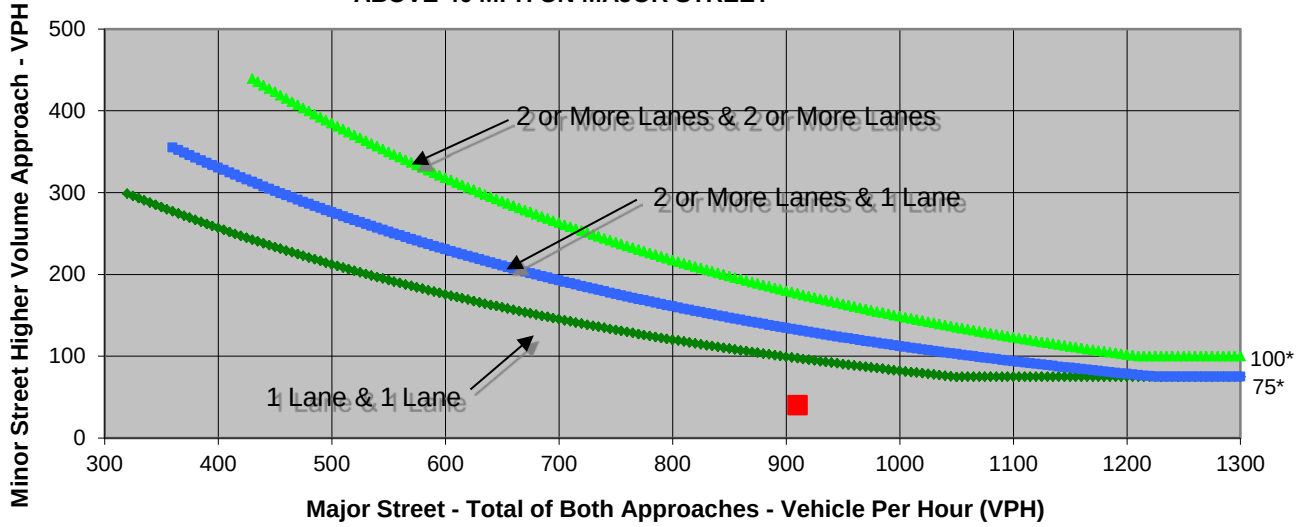
	NB	SB	EB	WB
Left	10	10	10	20
Through	500	320	10	10
Right	20	50	10	10
Total	530	380	30	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**910**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

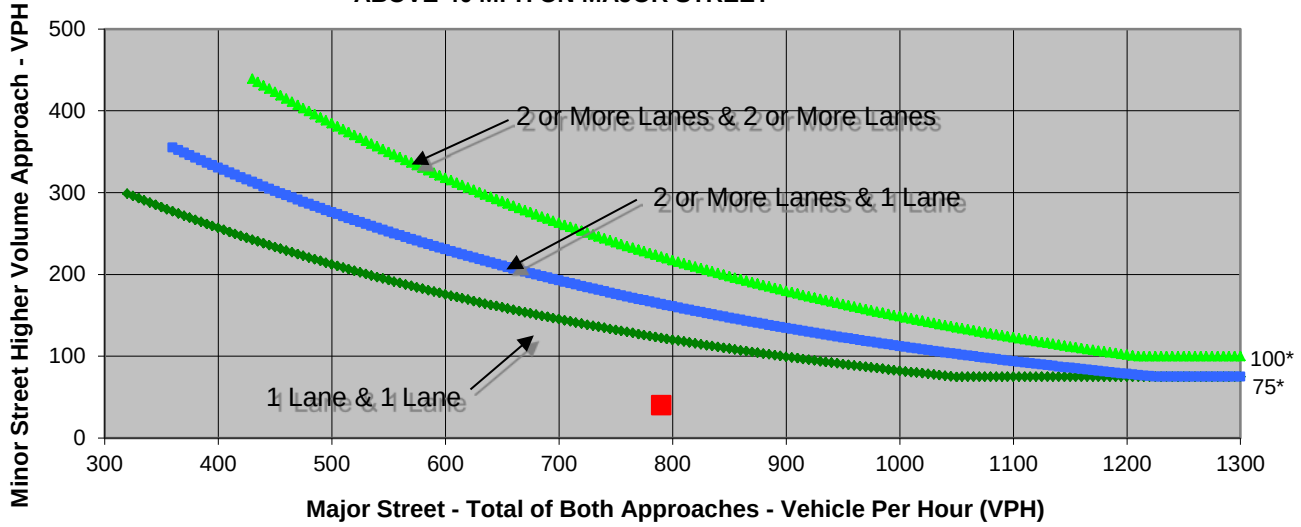
	NB	SB	EB	WB
Left	10	10	10	10
Through	220	530	10	10
Right	10	10	10	20
Total	240	550	30	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**790**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

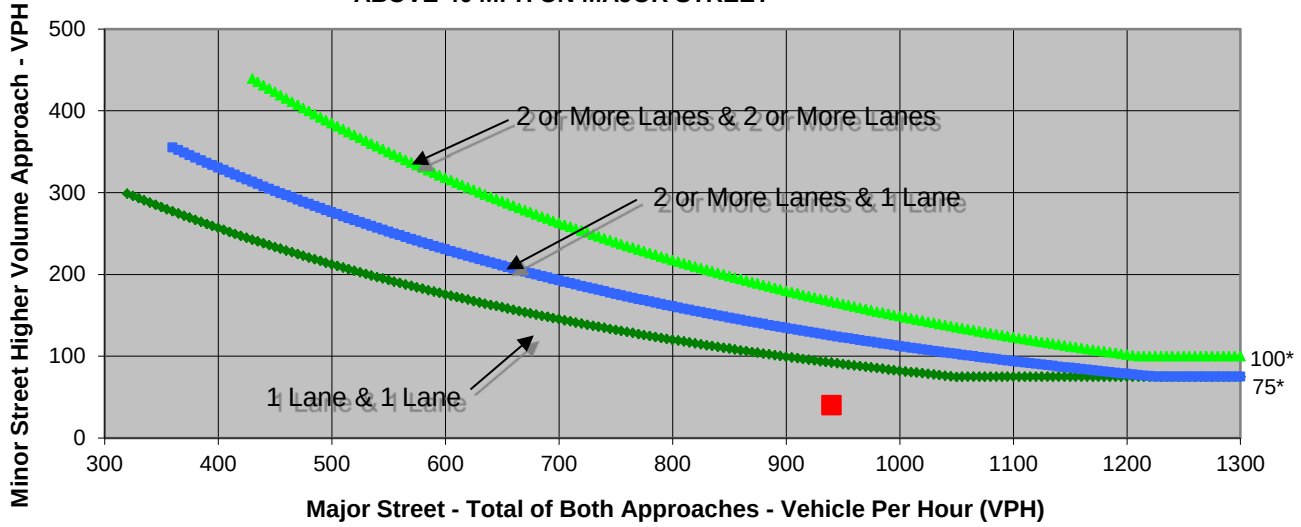
	NB	SB	EB	WB
Left	10	10	10	20
Through	540	350	10	10
Right	20	10	10	10
Total	570	370	30	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**940**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

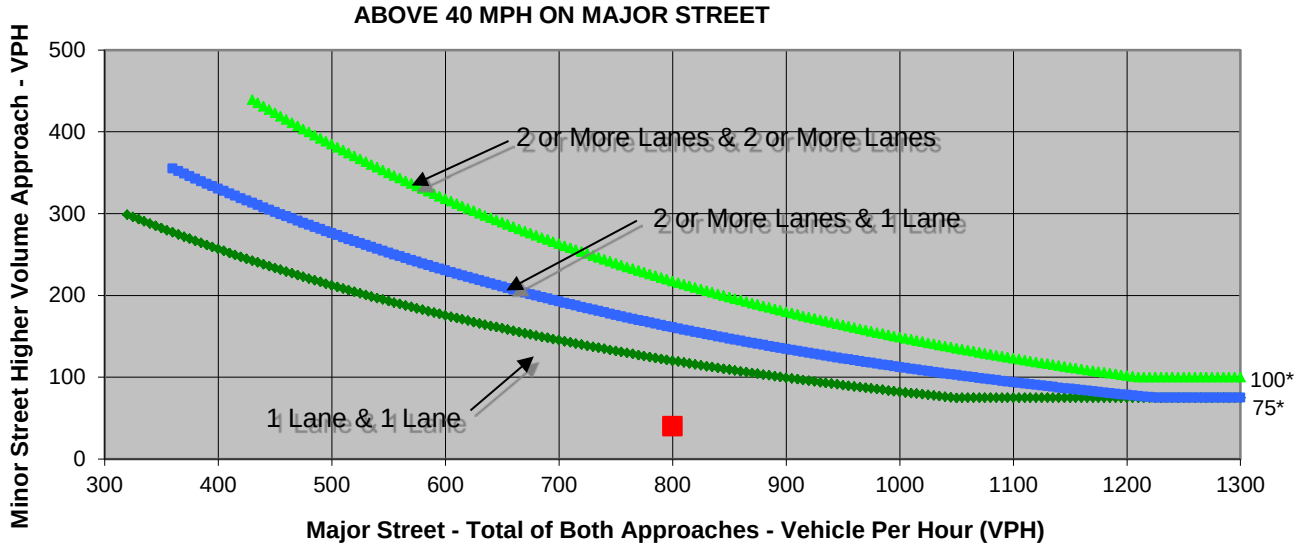
	NB	SB	EB	WB
Left	10	10	10	20
Through	230	530	10	10
Right	10	10	10	10
Total	250	550	30	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**800**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

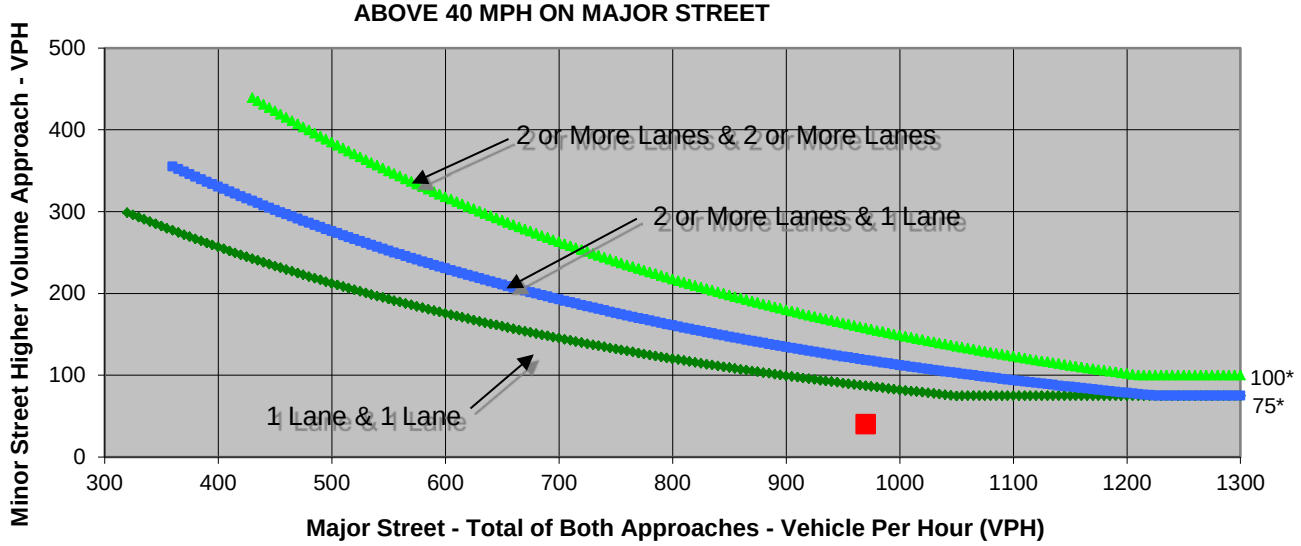
	NB	SB	EB	WB
Left	10	10	10	20
Through	560	360	10	10
Right	20	10	10	10
Total	590	380	30	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**970**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

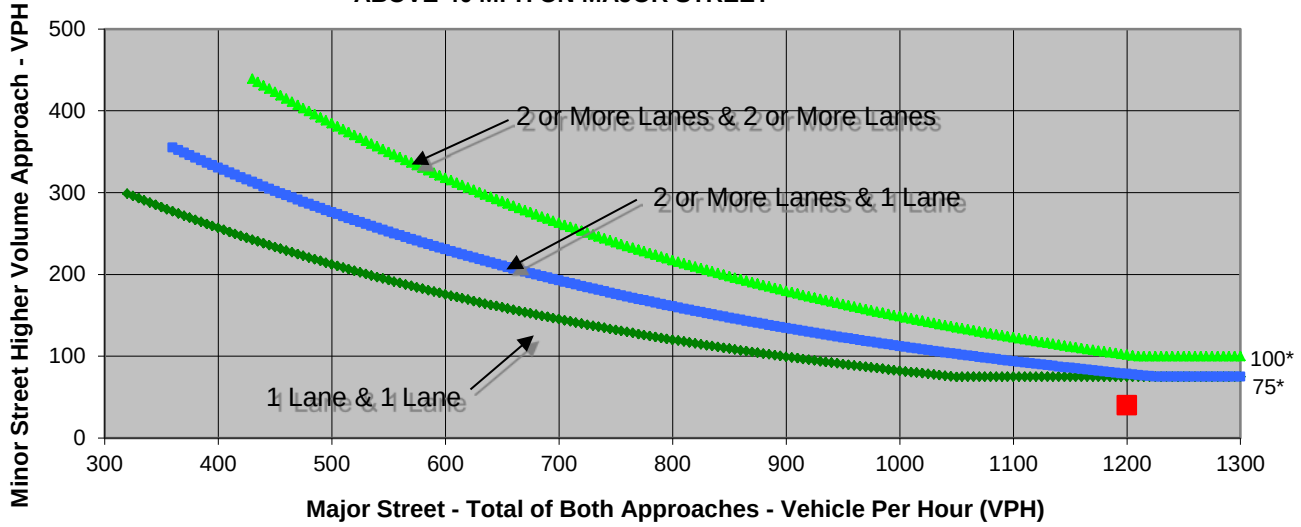
	NB	SB	EB	WB
Left	10	20	20	10
Through	560	580	10	10
Right	10	20	10	20
Total	580	620	40	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,200**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

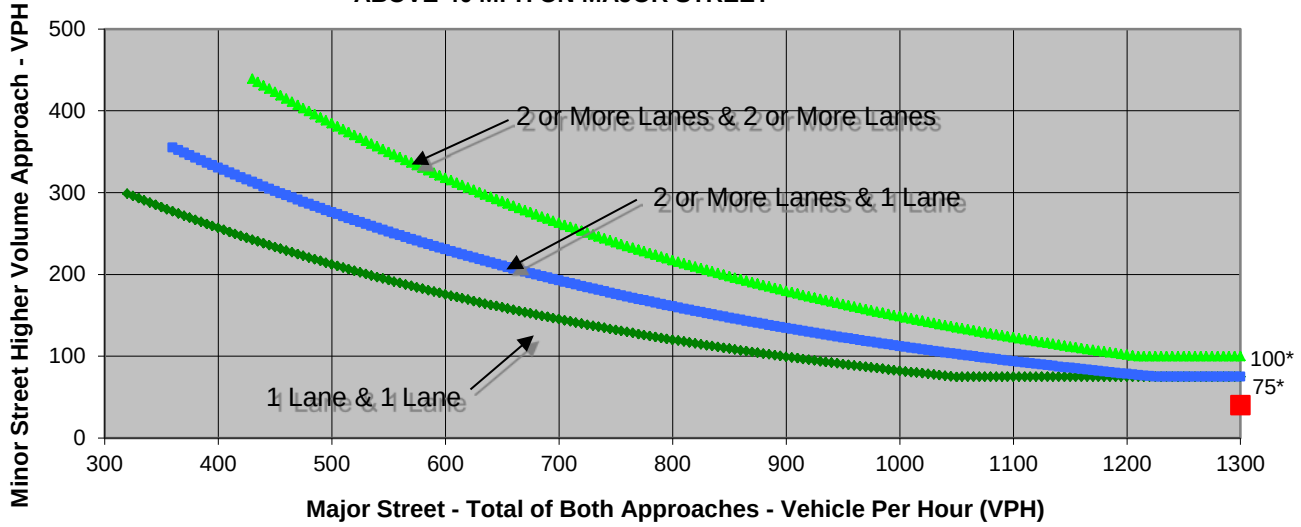
	NB	SB	EB	WB
Left	10	20	20	10
Through	710	530	10	10
Right	10	20	10	20
Total	730	570	40	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,300**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

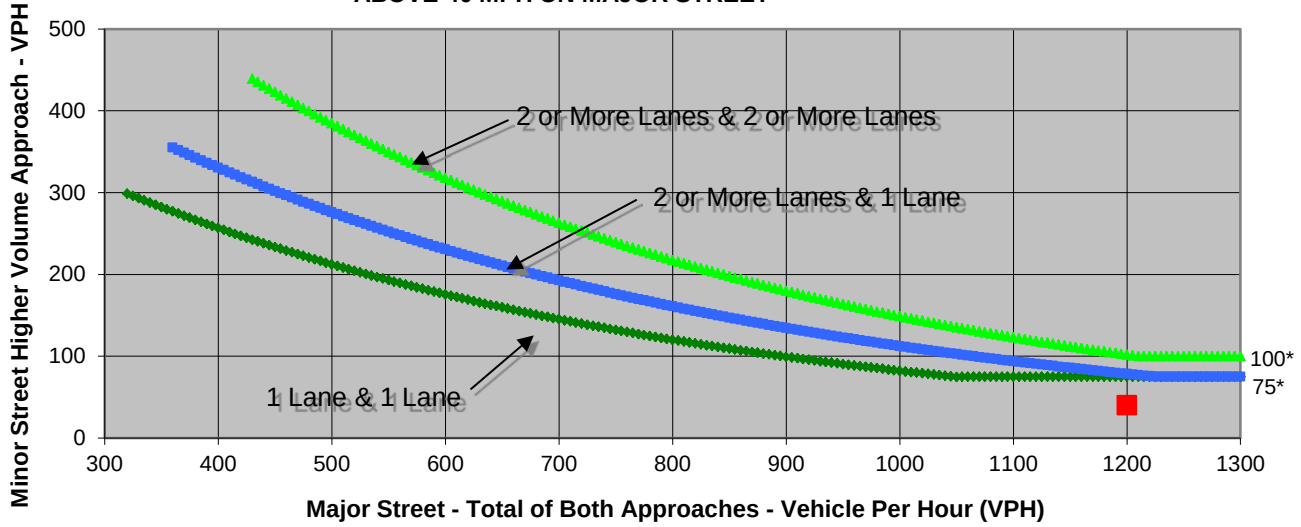
	NB	SB	EB	WB
Left	10	20	20	10
Through	560	580	10	10
Right	10	20	10	20
Total	580	620	40	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,200**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road South

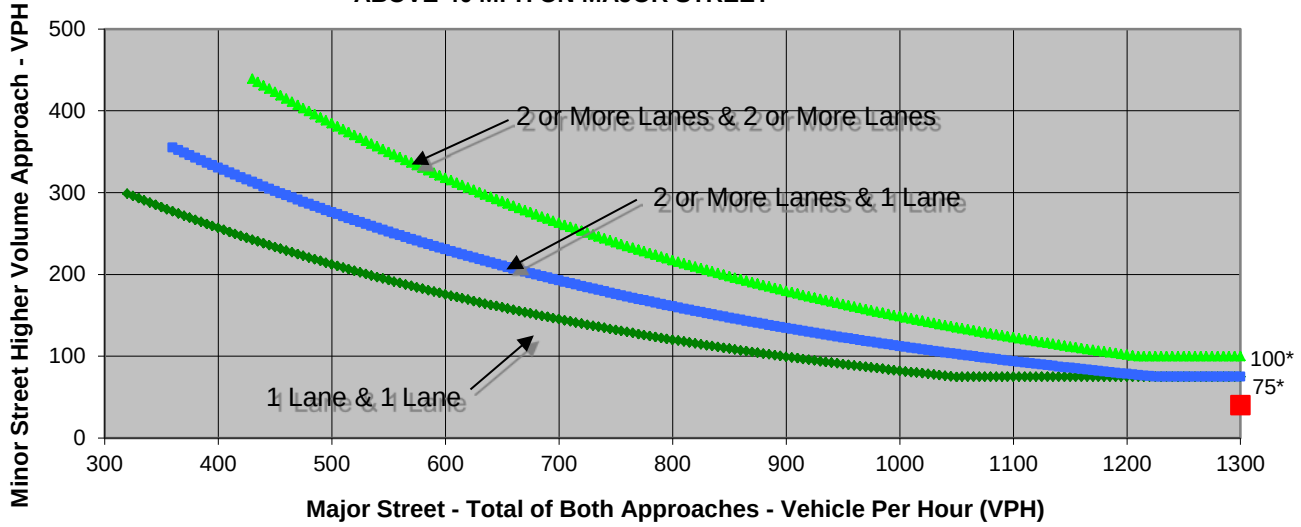
Turn Movement Volumes

	NB	SB	EB	WB
Left	10	20	20	10
Through	710	530	10	10
Right	10	20	10	20
Total	730	570	40	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR
ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,300**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

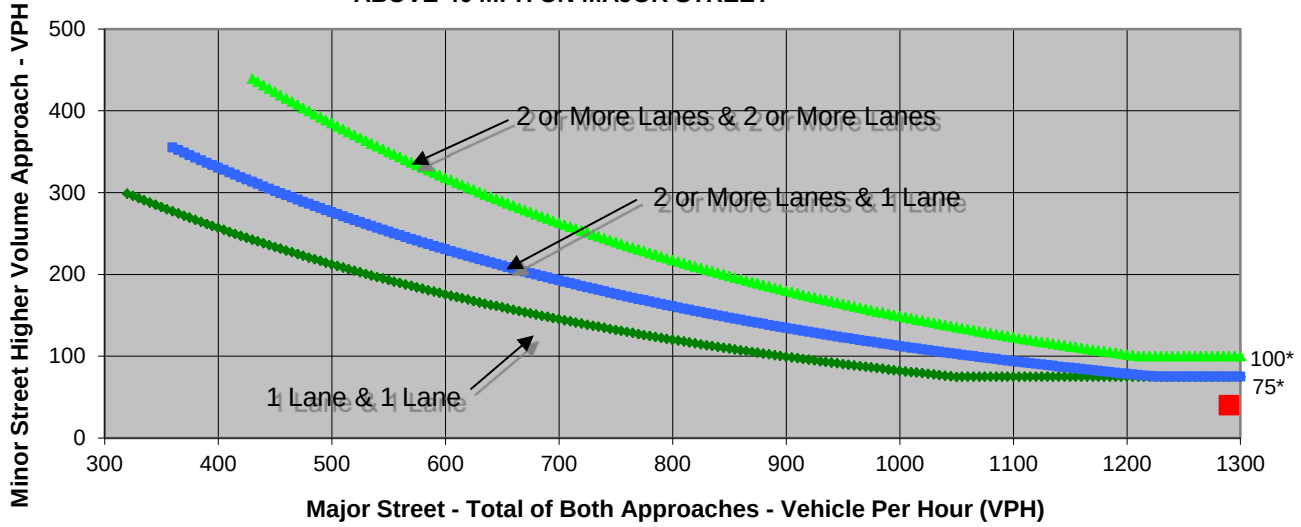
	NB	SB	EB	WB
Left	10	20	20	10
Through	660	570	10	10
Right	10	20	10	20
Total	680	610	40	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,290**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

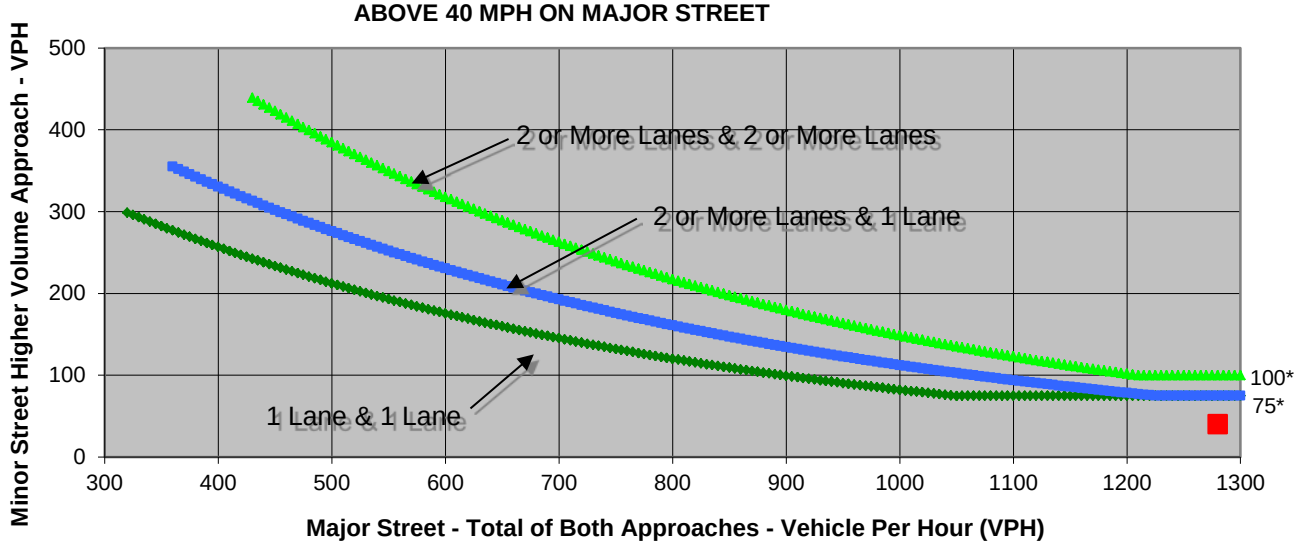
	NB	SB	EB	WB
Left	10	20	20	10
Through	690	530	10	10
Right	10	20	10	20
Total	710	570	40	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,280**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

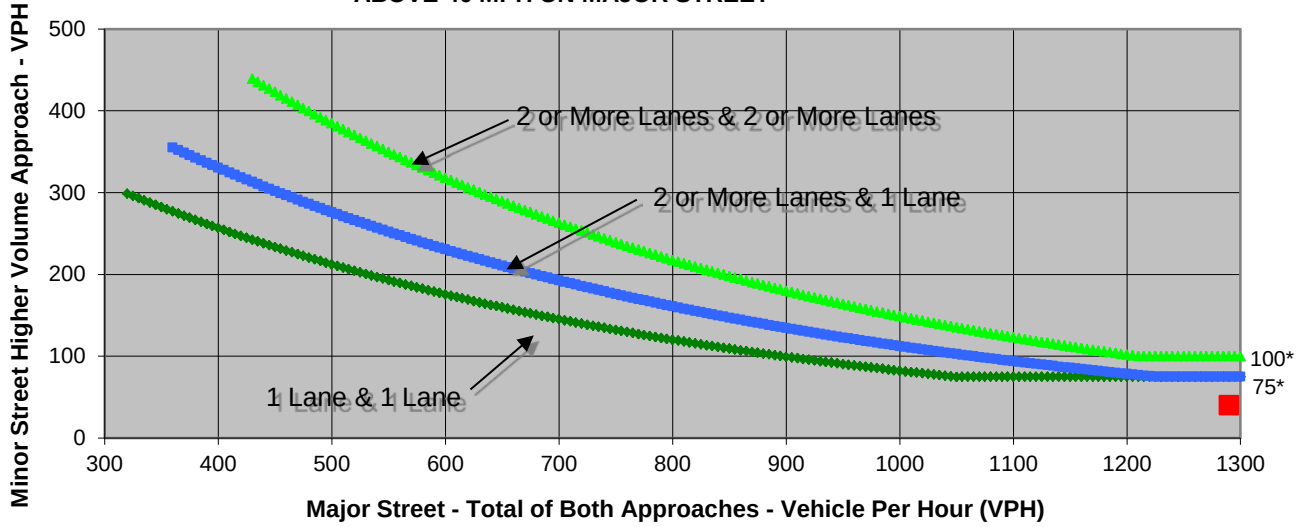
	NB	SB	EB	WB
Left	10	20	20	10
Through	660	570	10	10
Right	10	20	10	20
Total	680	610	40	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,290**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

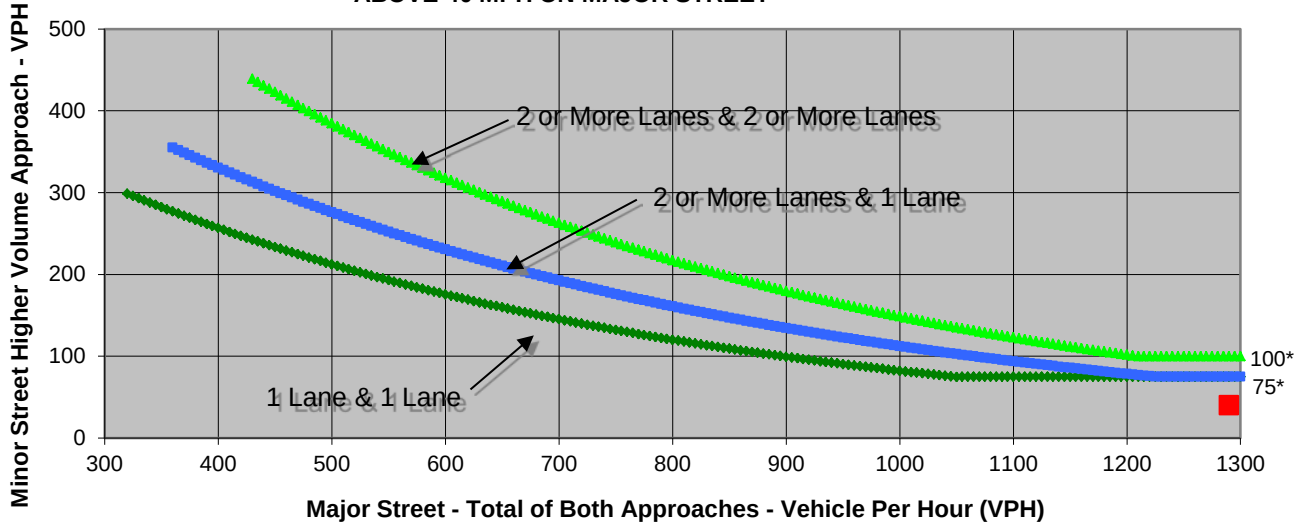
	NB	SB	EB	WB
Left	10	20	20	10
Through	700	530	10	10
Right	10	20	10	20
Total	720	570	40	40

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,290**	**40**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	NCC
Minor Street	Crane Road

Turn Movement Volumes

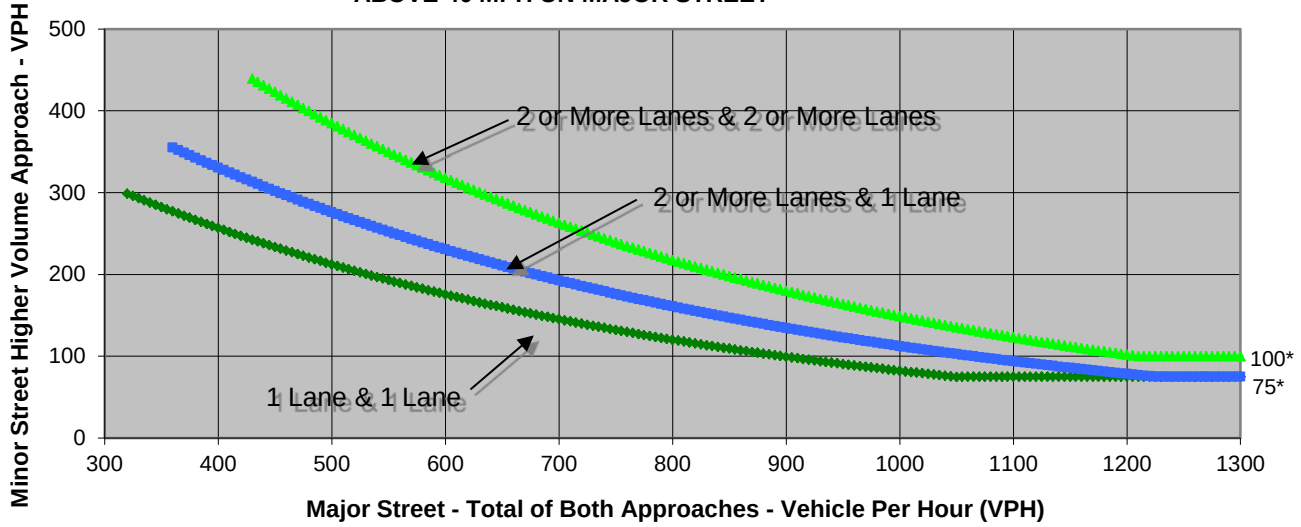
	NB	SB	EB	WB
Left	10	30	480	40
Through	30	30	680	410
Right	80	680	10	10
Total	120	740	1,170	460

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Crane Road	
Number of Approach Lanes	**6**	**4**	**YES**
Traffic Volume (VPH) *	**1,630**	**740**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	NCC
Minor Street	Crane Road

Turn Movement Volumes

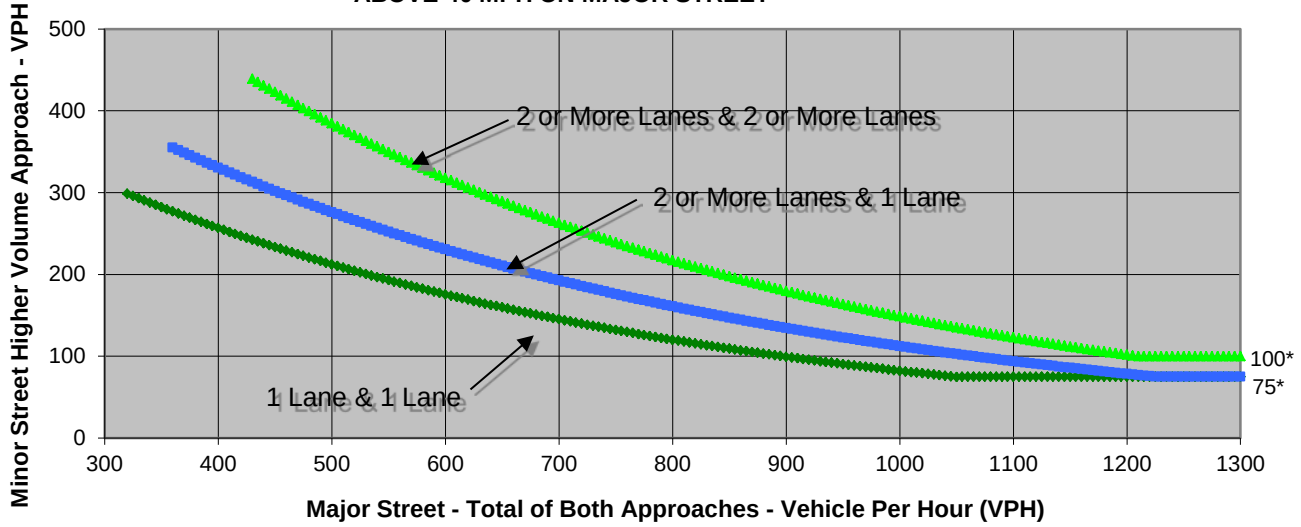
	NB	SB	EB	WB
Left	10	30	570	140
Through	40	50	590	630
Right	70	600	20	30
Total	120	680	1,180	800

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Crane Road	
Number of Approach Lanes	**6**	**4**	**YES**
Traffic Volume (VPH) *	**1,980**	**680**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	NCC
Minor Street	Crane Road

Turn Movement Volumes

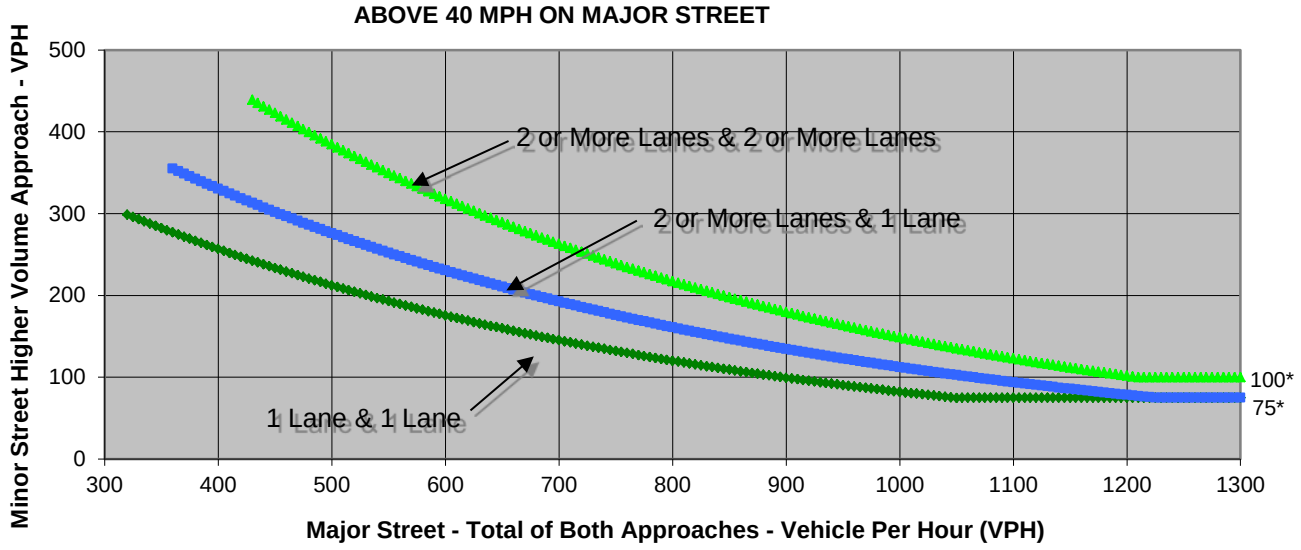
	NB	SB	EB	WB
Left	10	20	500	30
Through	30	30	620	380
Right	70	670	10	10
Total	110	720	1,130	420

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Crane Road	
Number of Approach Lanes	**6**	**4**	**YES**
Traffic Volume (VPH) *	**1,550**	**720**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	NCC
Minor Street	Crane Road

Turn Movement Volumes

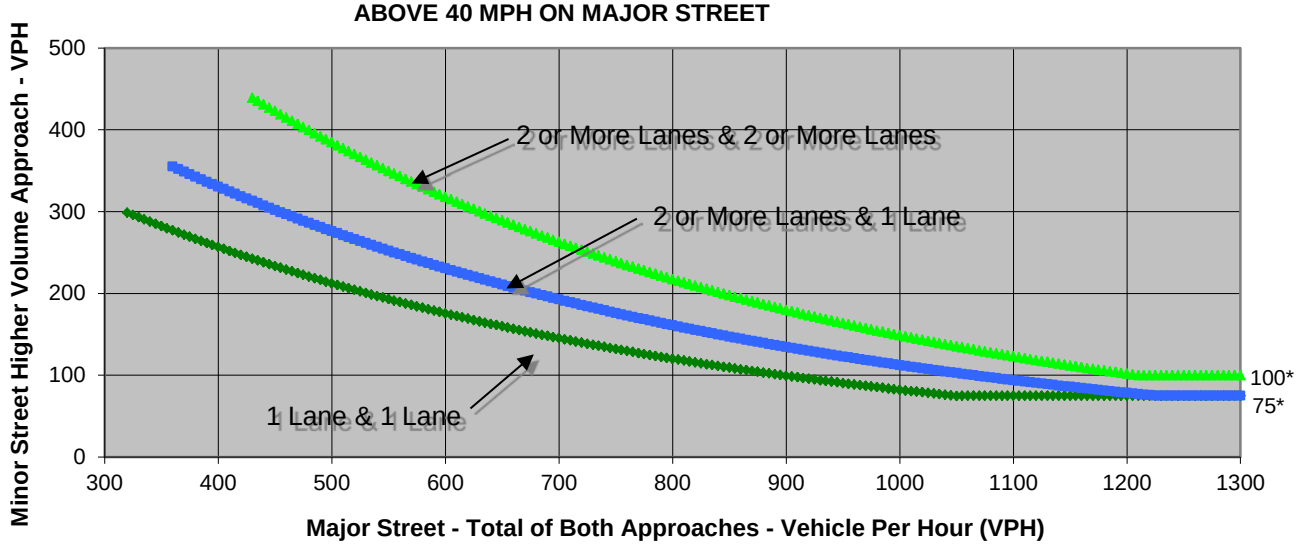
	NB	SB	EB	WB
Left	10	30	500	130
Through	40	50	560	610
Right	60	600	20	30
Total	110	680	1,080	770

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Crane Road	
Number of Approach Lanes	**6**	**4**	**YES**
Traffic Volume (VPH) *	**1,850**	**680**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 No Project
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Carver Road

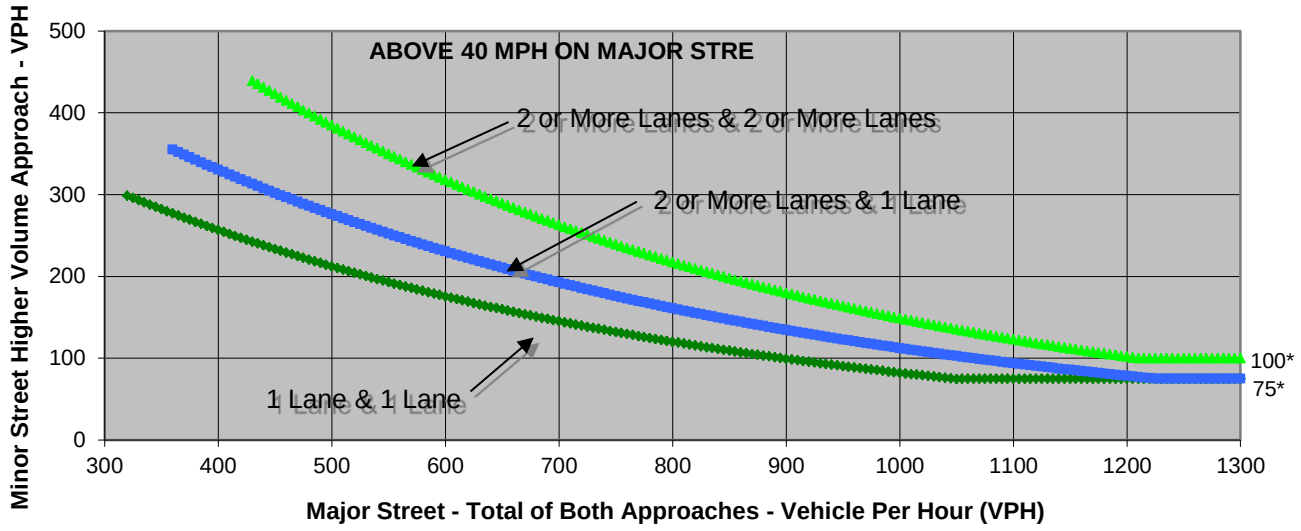
Turn Movement Volumes

	NB	SB	EB	WB
Left	180	20	40	70
Through	60	120	620	800
Right	20	70	120	50
Total	260	210	780	920

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,700**	**260**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 No Project
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Carver Road

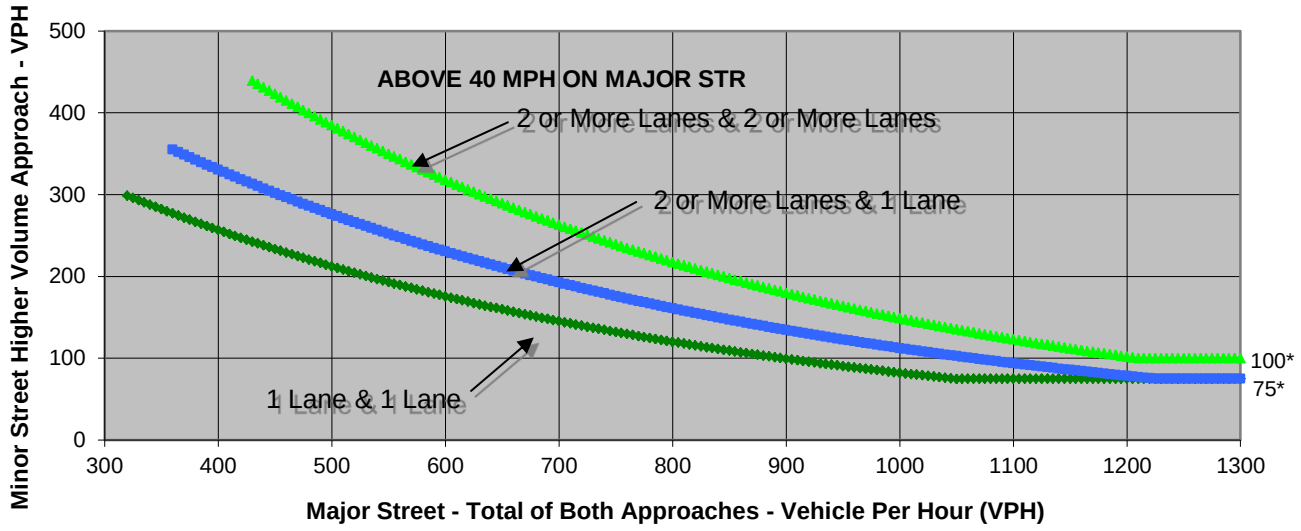
Turn Movement Volumes

	NB	SB	EB	WB
Left	80	50	40	40
Through	90	80	950	900
Right	80	20	150	30
Total	250	150	1,140	970

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**2,110**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

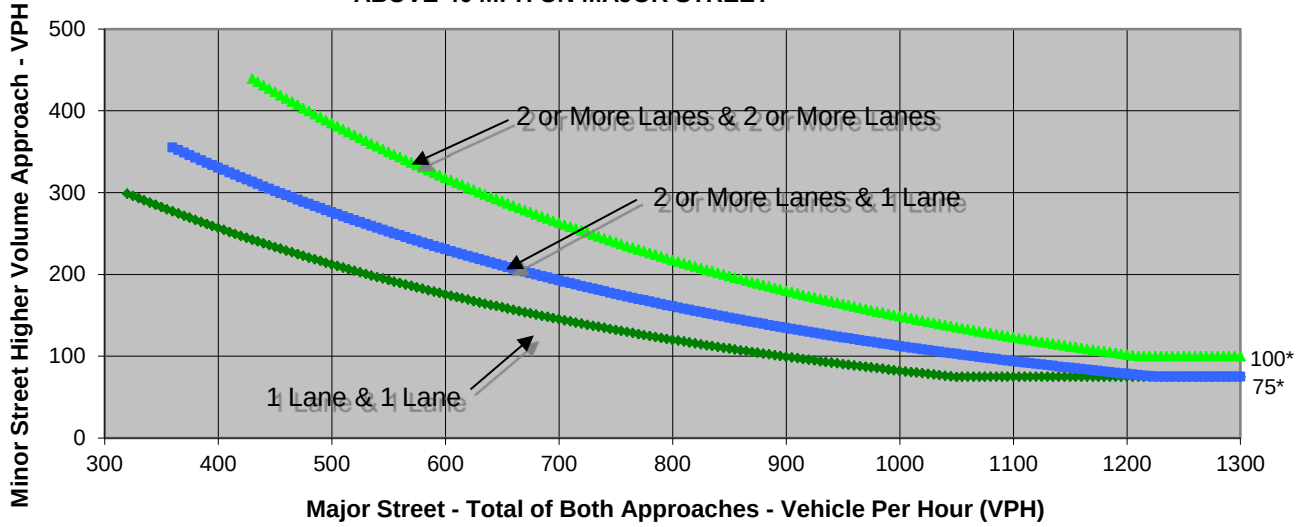
	NB	SB	EB	WB
Left	180	20	40	190
Through	60	120	640	990
Right	20	40	110	50
Total	260	180	790	1,230

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**2,020**	**260**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

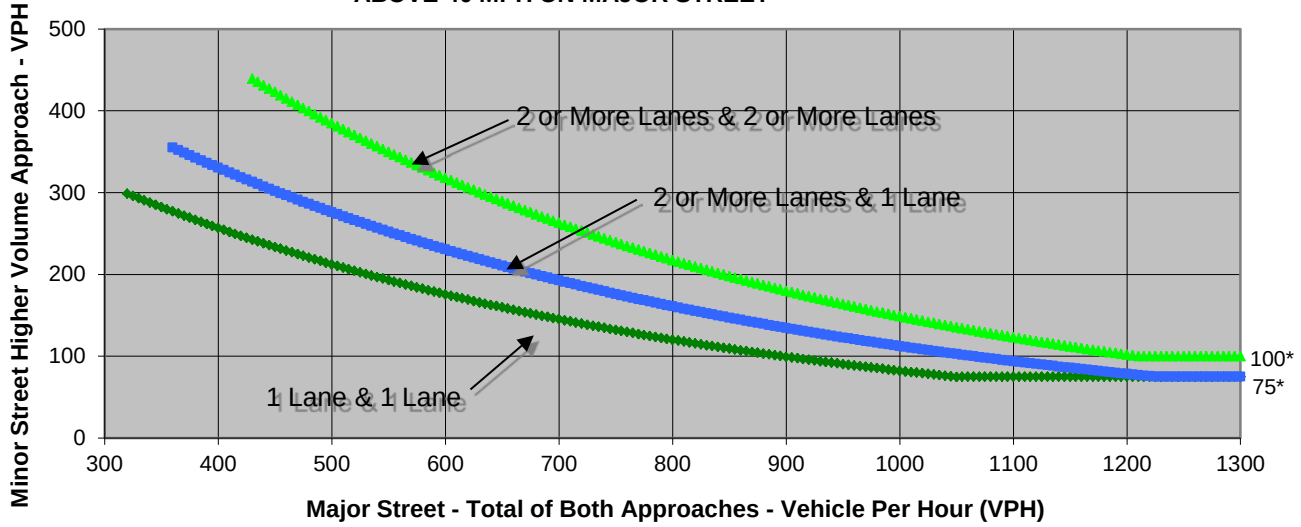
	NB	SB	EB	WB
Left	80	60	40	130
Through	90	80	1,040	980
Right	100	10	150	50
Total	270	150	1,230	1,160

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**2,390**	**270**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

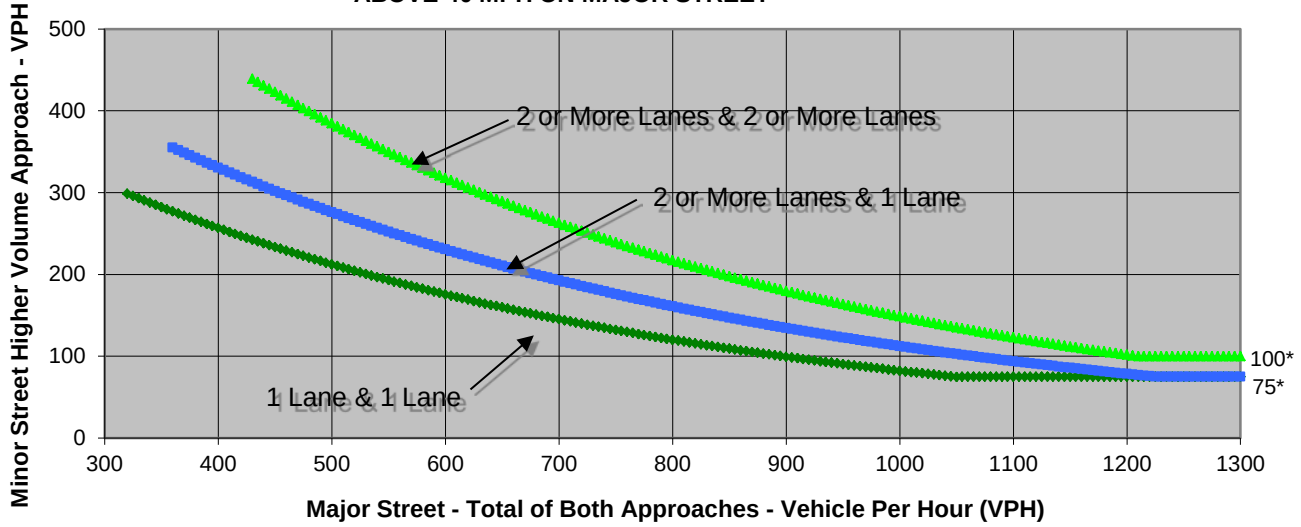
	NB	SB	EB	WB
Left	180	20	40	190
Through	60	120	640	990
Right	20	40	110	50
Total	260	180	790	1,230

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**2,020**	**260**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

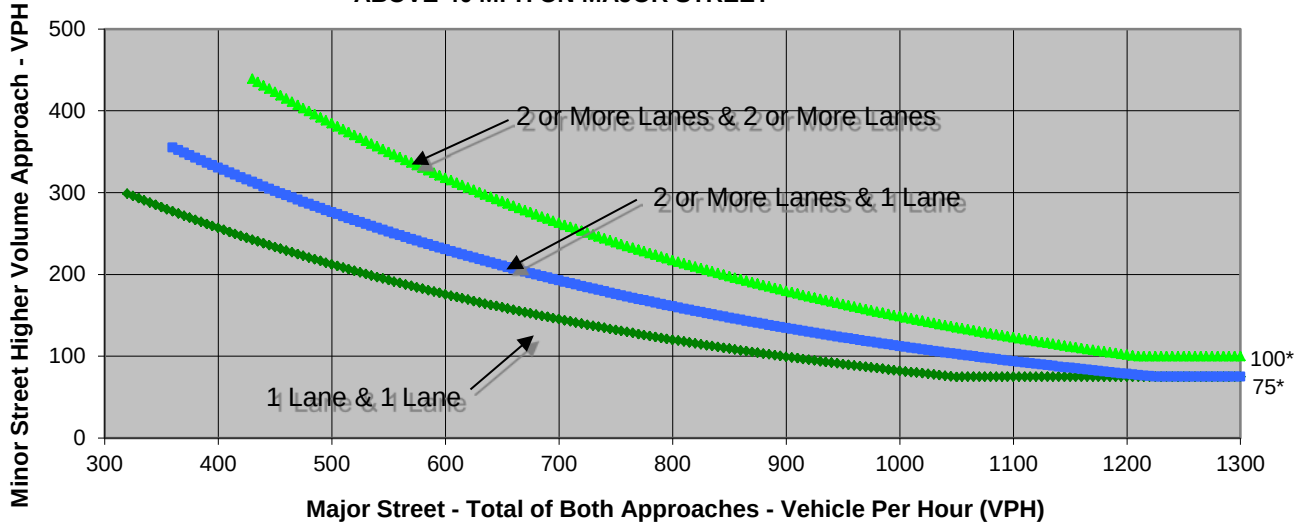
	NB	SB	EB	WB
Left	80	60	40	130
Through	90	80	1,040	980
Right	100	10	150	50
Total	270	150	1,230	1,160

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**2,390**	**270**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

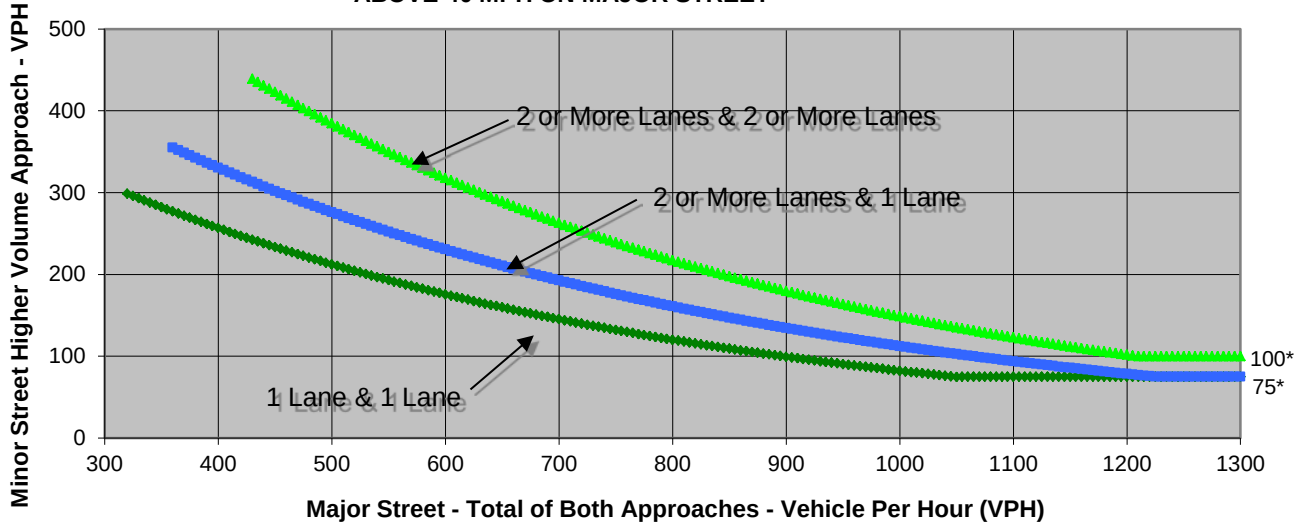
	NB	SB	EB	WB
Left	180	20	40	170
Through	60	80	640	950
Right	20	50	110	50
Total	260	150	790	1,170

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,960**	**260**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

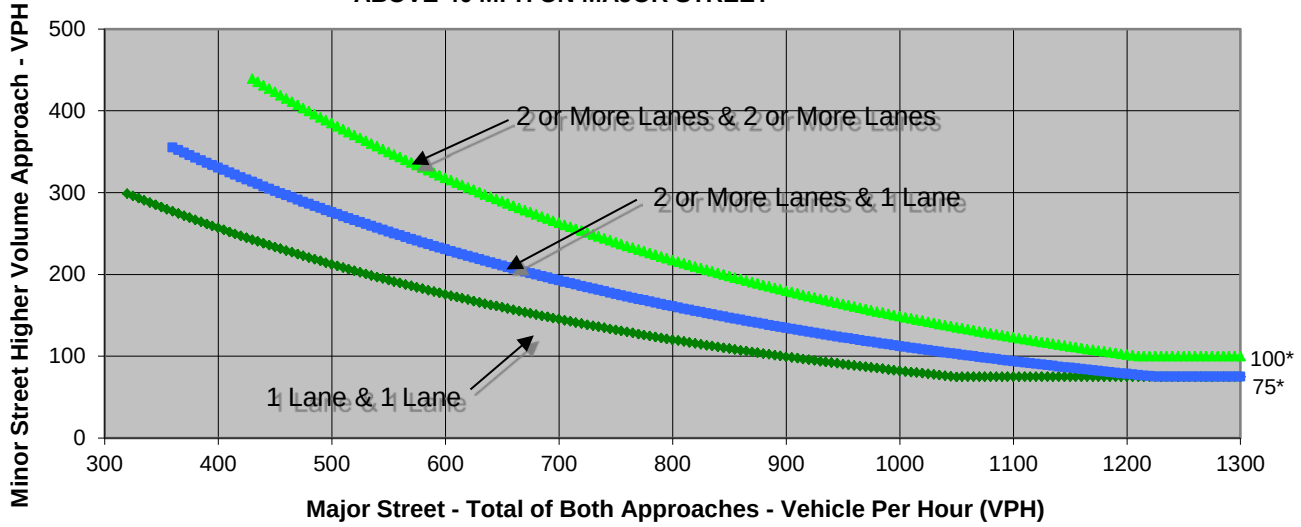
	NB	SB	EB	WB
Left	80	60	40	90
Through	90	80	970	960
Right	100	10	150	40
Total	270	150	1,160	1,090

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**2,250**	**270**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	NCC Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

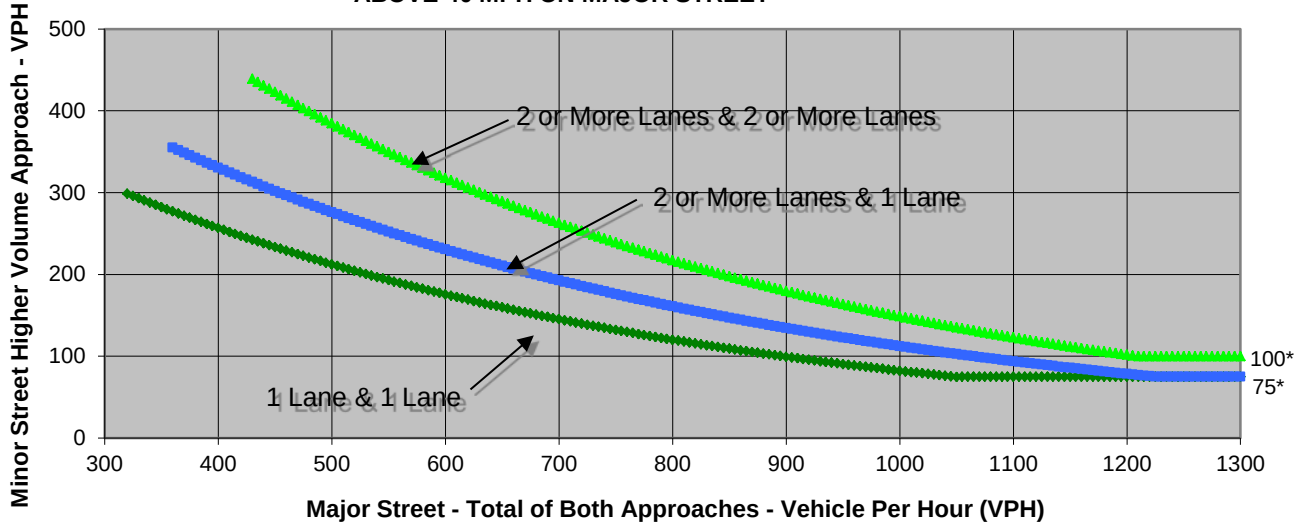
	NB	SB	EB	WB
Left	180	20	40	170
Through	60	80	640	950
Right	20	50	110	50
Total	260	150	790	1,170

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,960**	**260**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	NCC Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

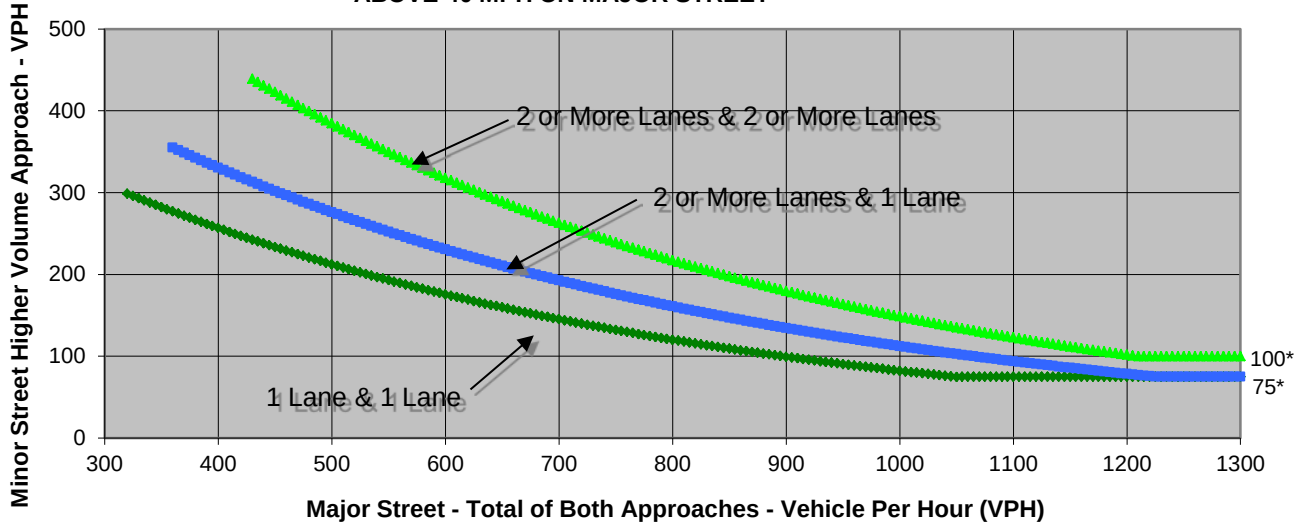
	NB	SB	EB	WB
Left	80	60	40	90
Through	90	80	970	960
Right	100	10	150	40
Total	270	150	1,160	1,090

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**2,250**	**270**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 No Project
Peak Hour	AM

Major Street	NCC Claribel Road
Minor Street	Coffee Road

Turn Movement Volumes

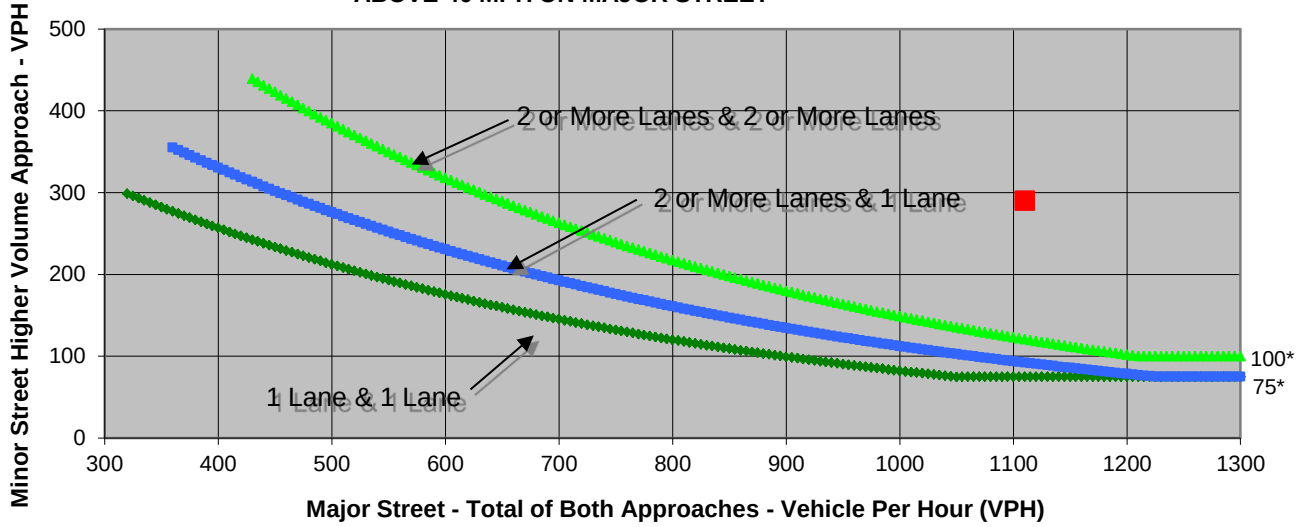
	NB	SB	EB	WB
Left	120	20	40	90
Through	110	270	280	700
Right				
Total	230	290	320	790

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC Claribel Road	Coffee Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,110**	**290**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 No Project
Peak Hour	PM

Major Street	NCC Claribel Road
Minor Street	Coffee Road

Turn Movement Volumes

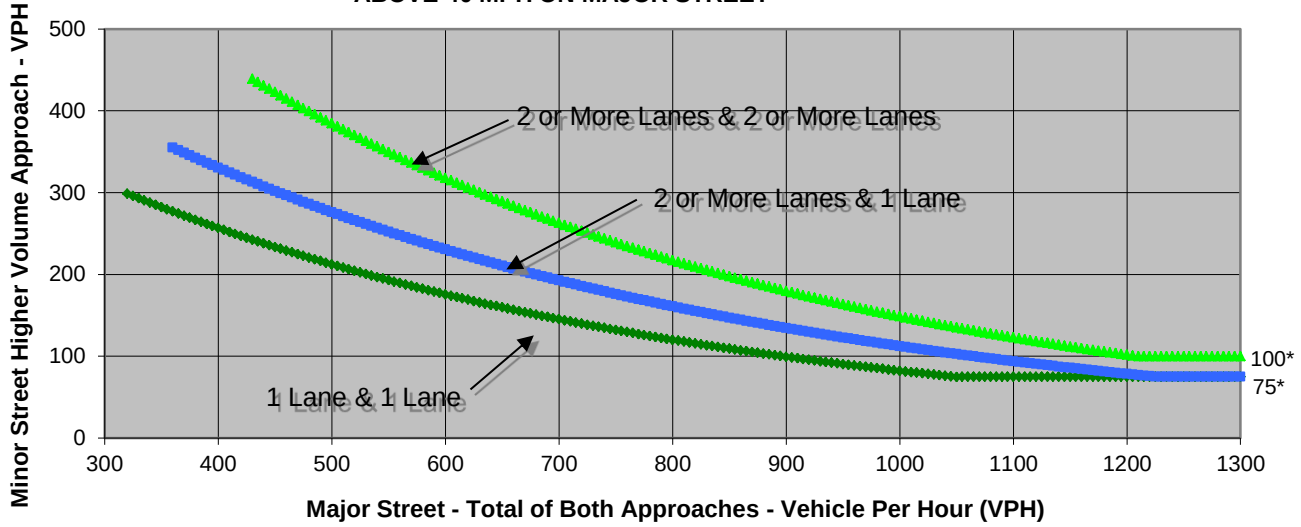
	NB	SB	EB	WB
Left	80	20	130	110
Through	310	170	550	530
Right				
Total	390	190	680	640

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC Claribel Road	Coffee Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,320**	**390**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1
Project	NCC		
Scenario	2022 Project Alt. 1A		
Peak Hour	AM		

Major Street	Coffee Road
Minor Street	NCC Kiernan Avenue

Turn Movement Volumes

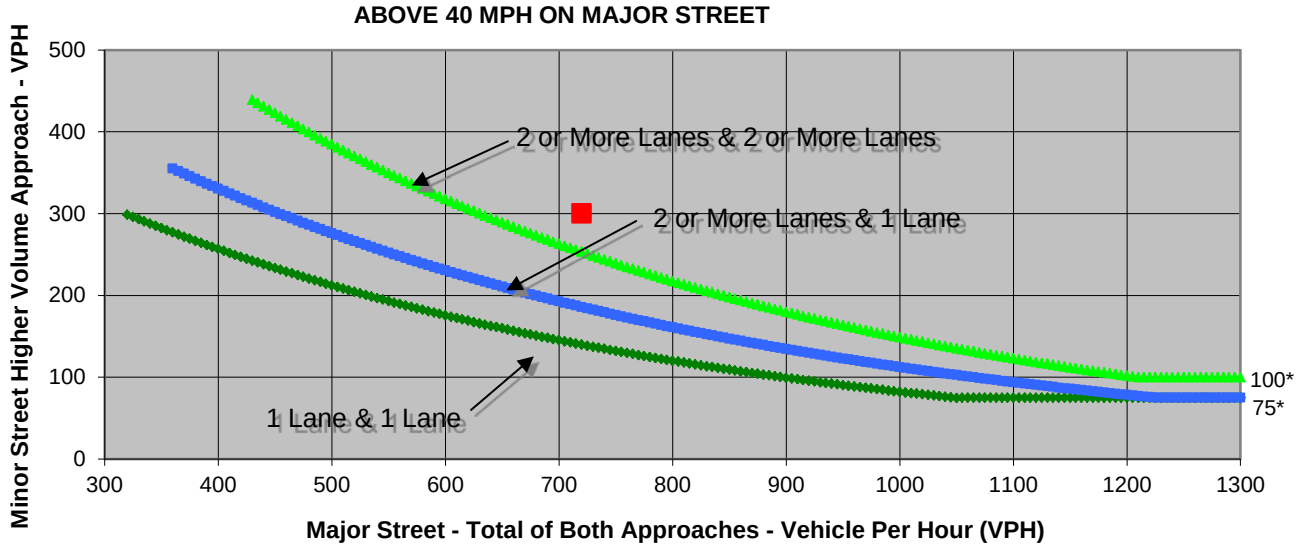
	NB	SB	EB	WB
Left	250	20	40	300
Through	180	270		
Right				
Total	430	290	40	300

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	NCC Kiernan Avenue	
Number of Approach Lanes	**4**	**5**	**YES**
Traffic Volume (VPH) *	**720**	**300**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Coffee Road
Minor Street	NCC Kiernan Avenue

Turn Movement Volumes

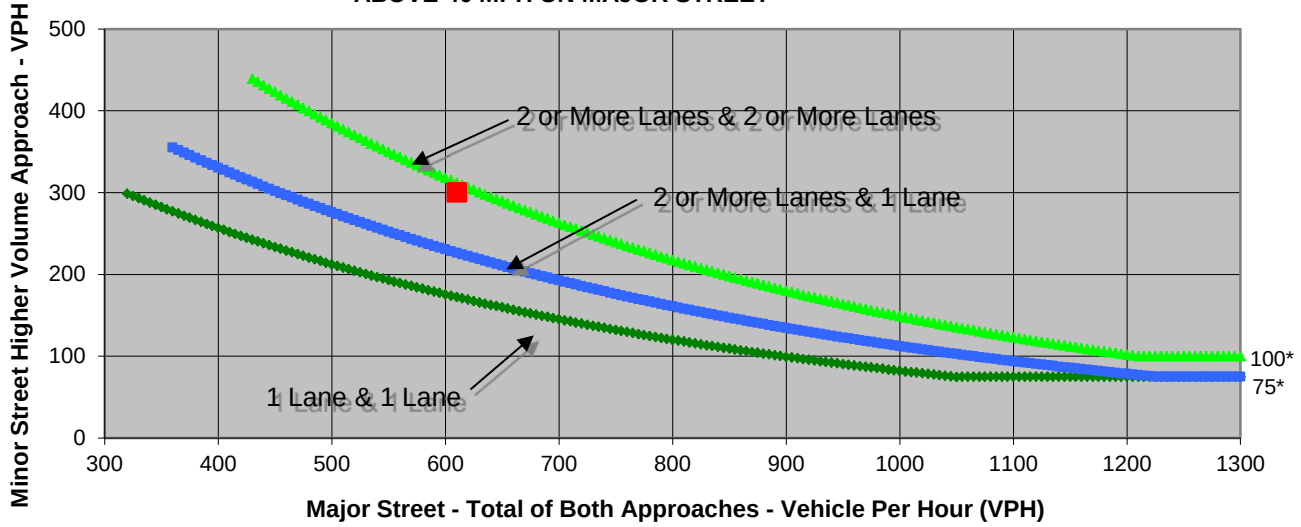
	NB	SB	EB	WB
Left	220	20	300	230
Through	200	170		
Right				
Total	420	190	300	230

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	NCC Kiernan Avenue	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**610**	**300**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Kiernan Avenue

Turn Movement Volumes

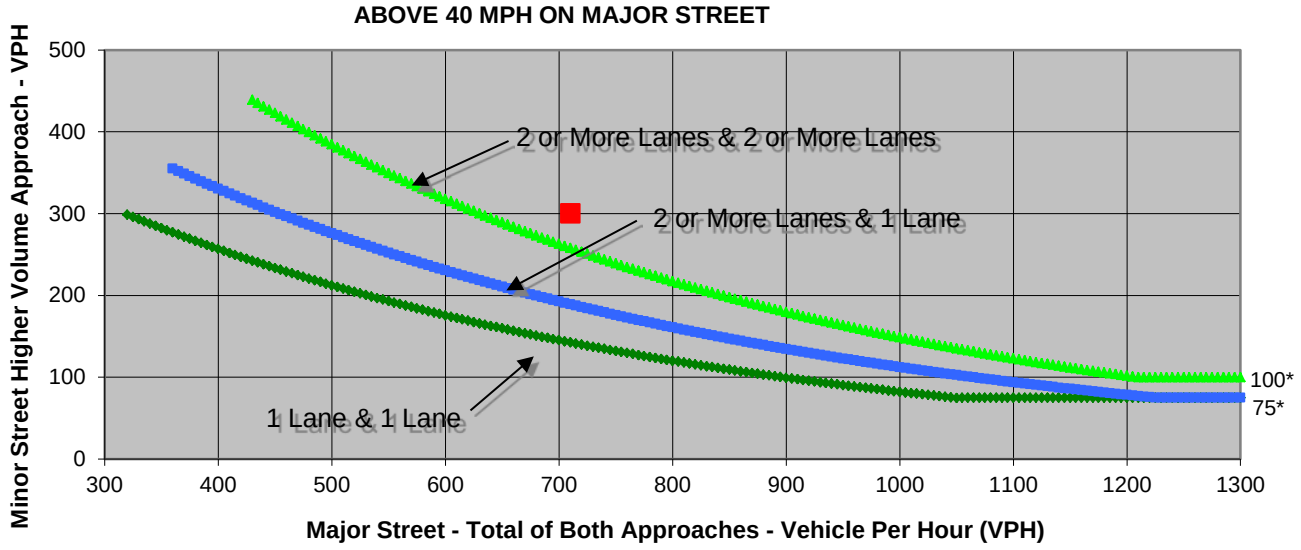
	NB	SB	EB	WB
Left	250	20	50	300
Through	170	270		
Right				
Total	420	290	50	300

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Kiernan Avenue	
Number of Approach Lanes	**4**	**3**	**YES**
Traffic Volume (VPH) *	**710**	**300**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Kiernan Avenue

Turn Movement Volumes

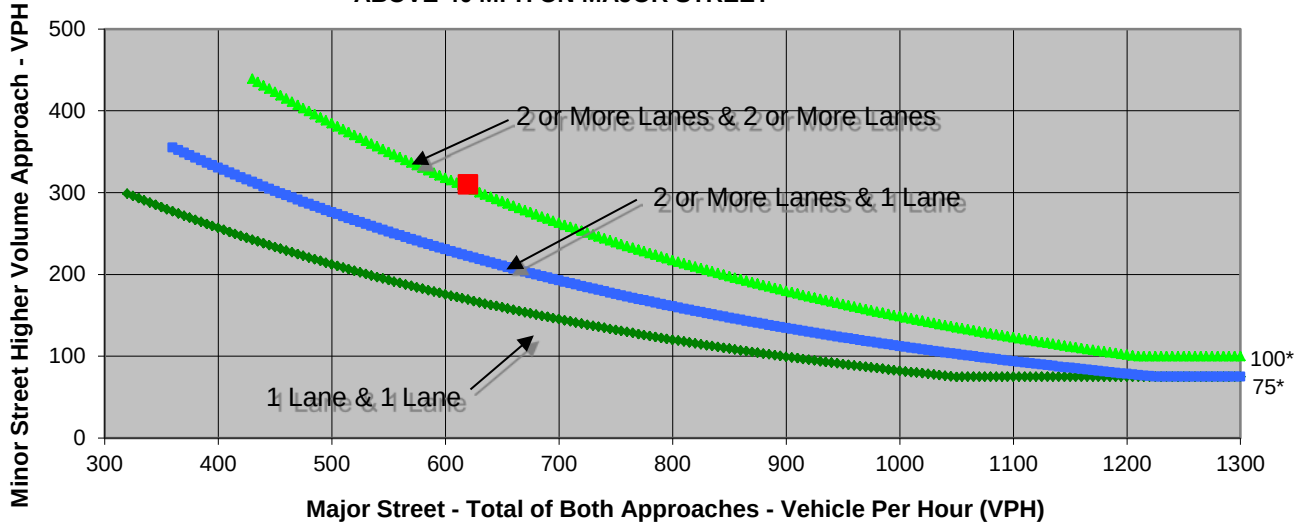
	NB	SB	EB	WB
Left	220	20	310	220
Through	200	180		
Right				
Total	420	200	310	220

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Kiernan Avenue	
Number of Approach Lanes	**4**	**3**	**YES**
Traffic Volume (VPH) *	**620**	**310**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Coffee Road
Minor Street	NCC Kiernan Avenue

Turn Movement Volumes

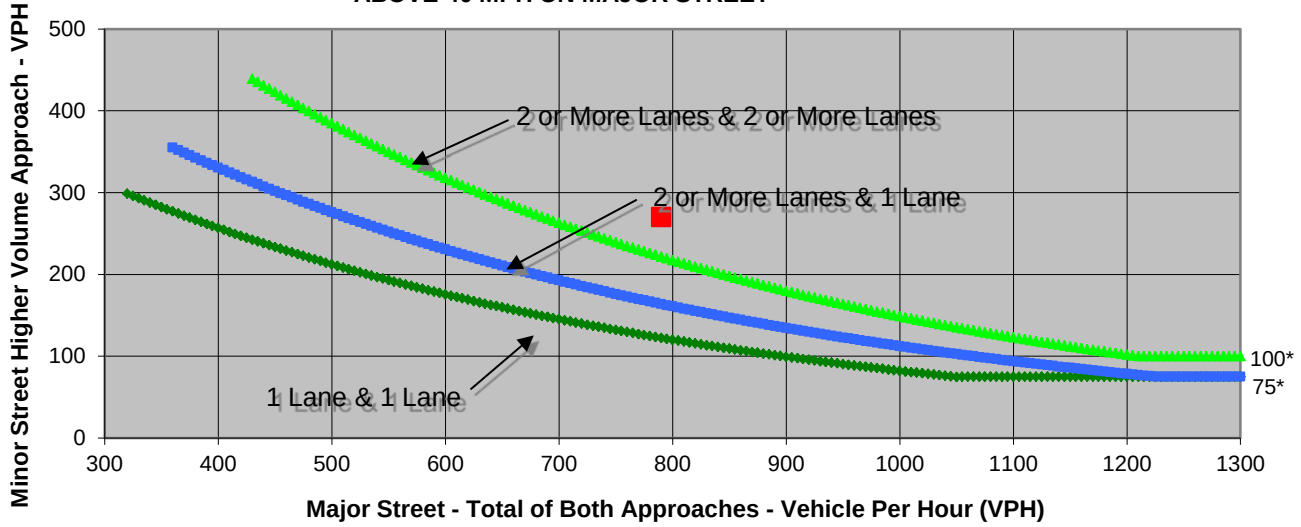
	NB	SB	EB	WB
Left	320	20	40	270
Through	180	270		
Right				
Total	500	290	40	270

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	NCC Kiernan Avenue	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**790**	**270**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	Coffee Road
Minor Street	NCC Kiernan Avenue

Turn Movement Volumes

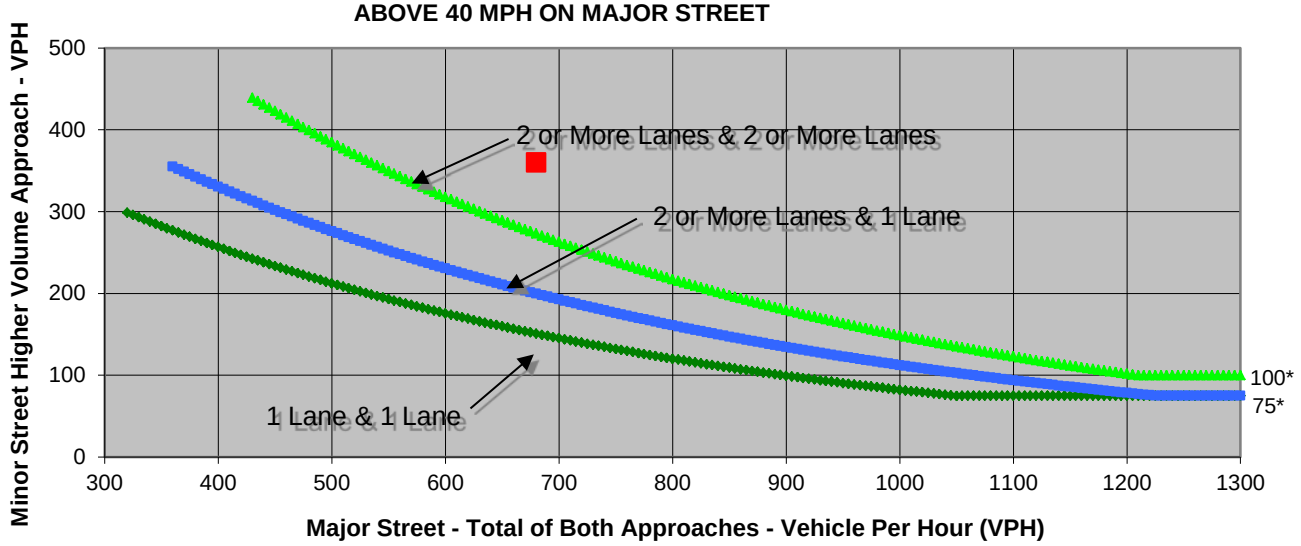
	NB	SB	EB	WB
Left	240	20	360	220
Through	200	220	0	0
Right	0	0	0	0
Total	440	240	360	220

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	NCC Kiernan Avenue	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**680**	**360**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	Coffee Road
Minor Street	NCC SPUI

Turn Movement Volumes

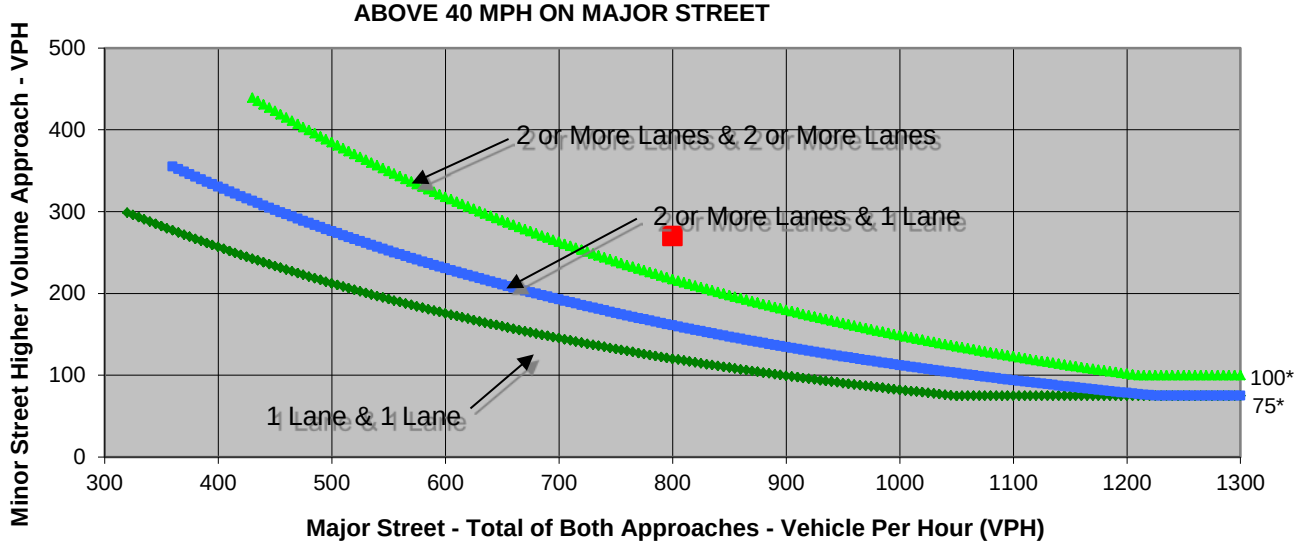
	NB	SB	EB	WB
Left	320	20	40	270
Through	190	270	0	0
Right	0	0	0	0
Total	510	290	40	270

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**800**	**270**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	Coffee Road
Minor Street	NCC SPUI

Turn Movement Volumes

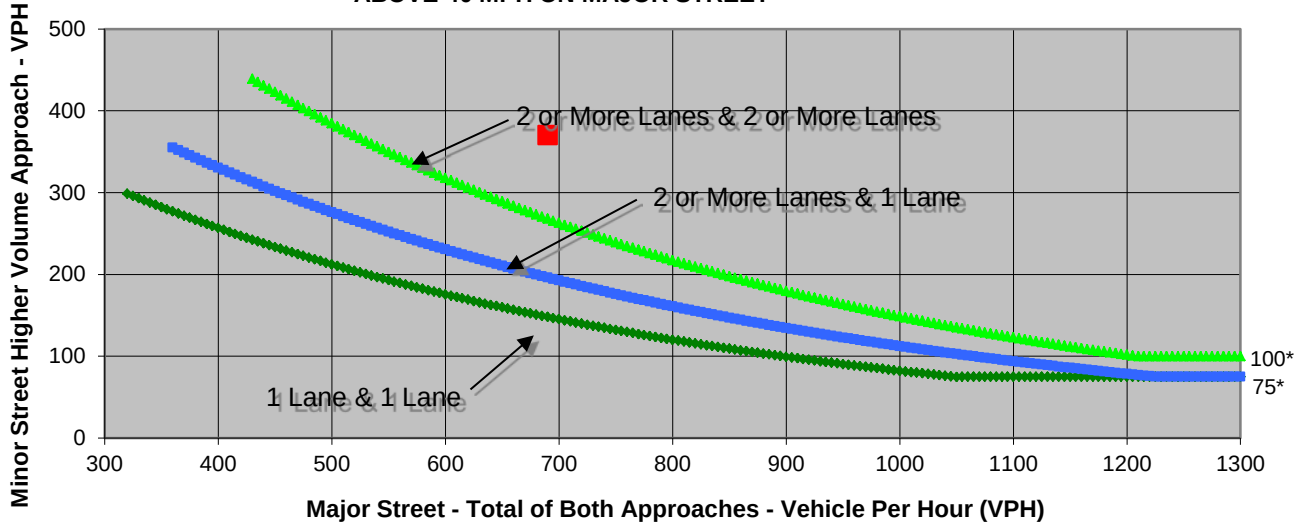
	NB	SB	EB	WB
Left	240	20	370	210
Through	200	230	0	0
Right	0	0	0	0
Total	440	250	370	210

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**690**	**370**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alternative 1A
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

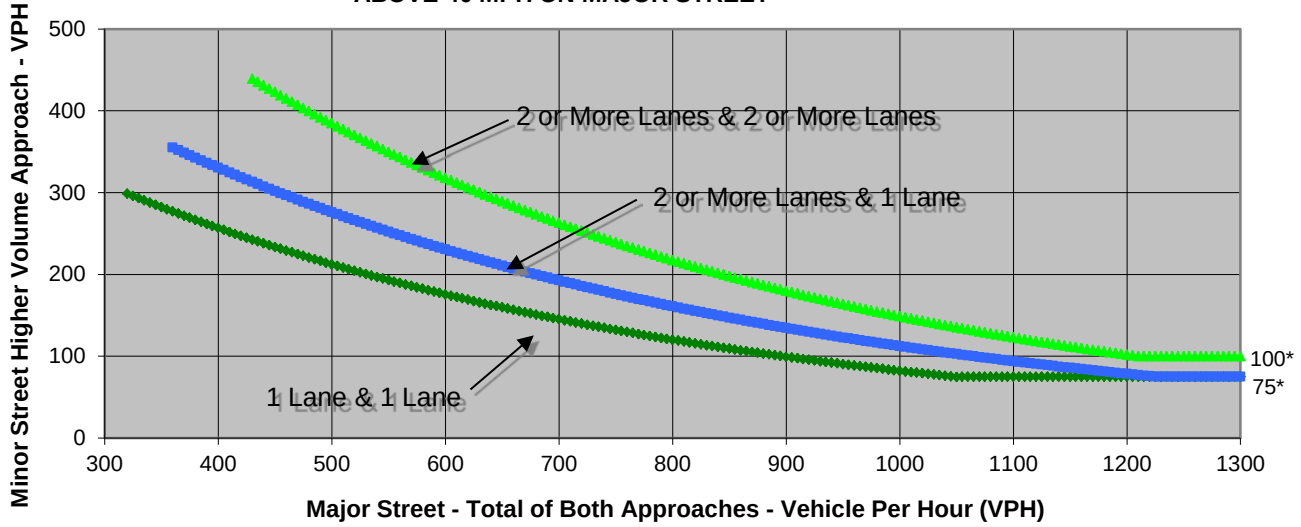
	NB	SB	EB	WB
Left	260	60	20	350
Through	160	140	1,010	880
Right	460	20	170	50
Total	880	220	1,200	1,280

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**5**	**YES**
Traffic Volume (VPH) *	**2,480**	**880**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 No Project
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

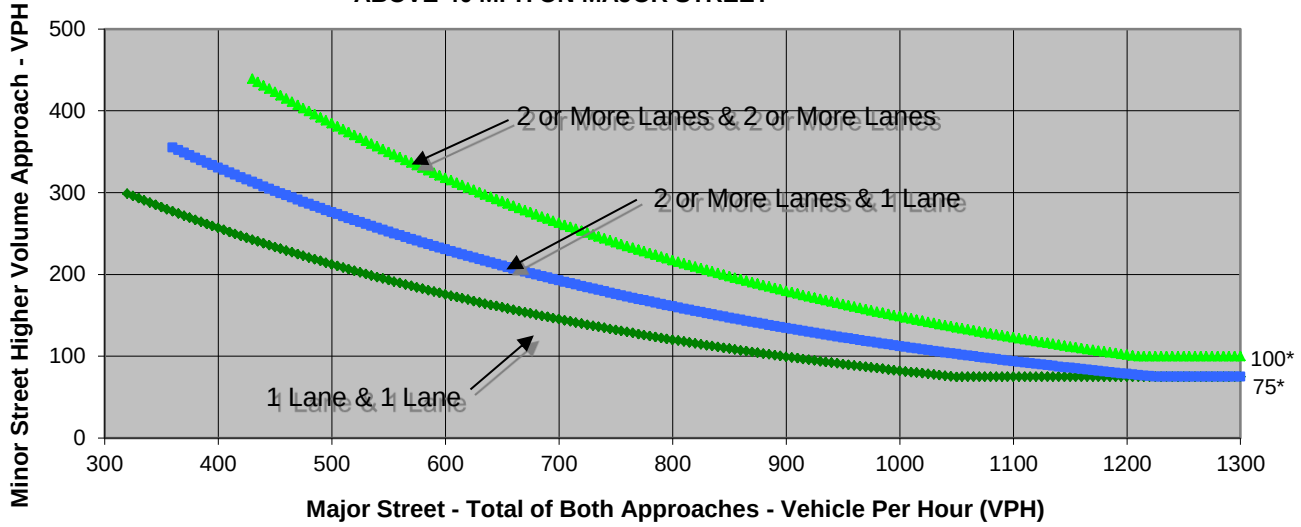
	NB	SB	EB	WB
Left	120	30	30	210
Through	70	100	410	750
Right	120	50	220	10
Total	310	180	660	970

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**6**	**3**	**YES**
Traffic Volume (VPH) *	**1,630**	**310**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 No Project
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

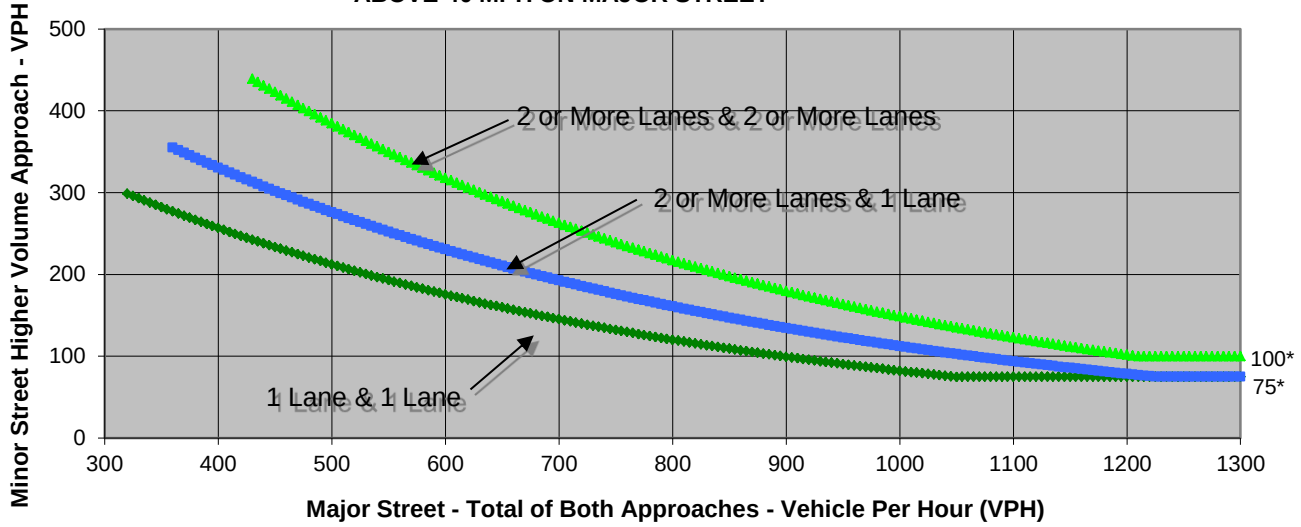
	NB	SB	EB	WB
Left	270	60	50	220
Through	160	140	830	680
Right	180	20	200	30
Total	610	220	1,080	930

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**6**	**3**	**YES**
Traffic Volume (VPH) *	**2,010**	**610**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alternative 1A
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

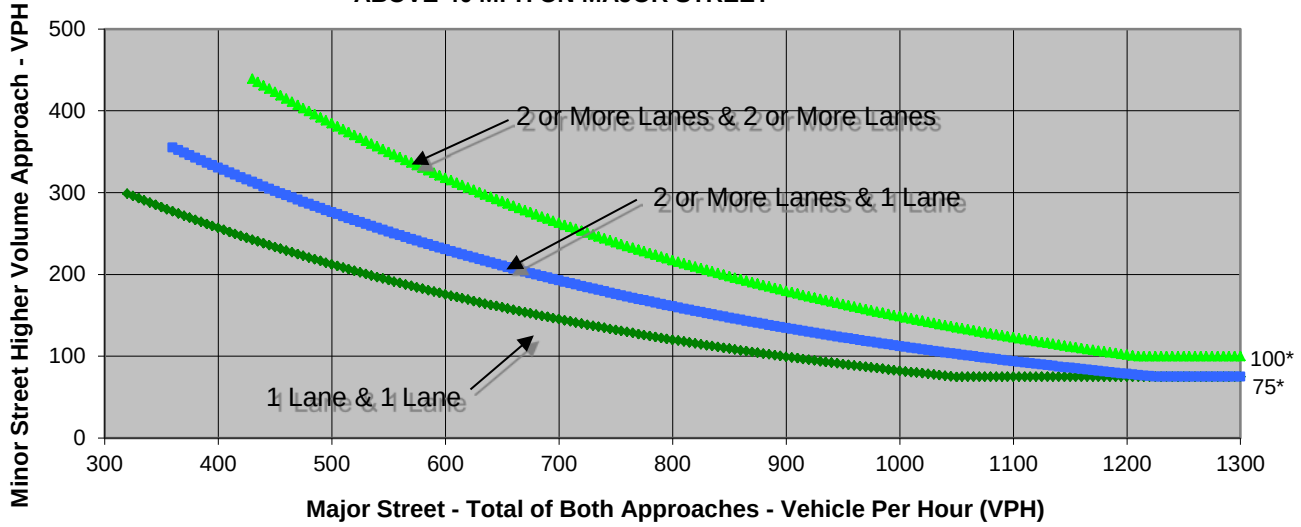
	NB	SB	EB	WB
Left	90	30	30	390
Through	70	100	450	1,090
Right	120	50	200	20
Total	280	180	680	1,500

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**6**	**YES**
Traffic Volume (VPH) *	**2,180**	**280**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alternative 1B
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

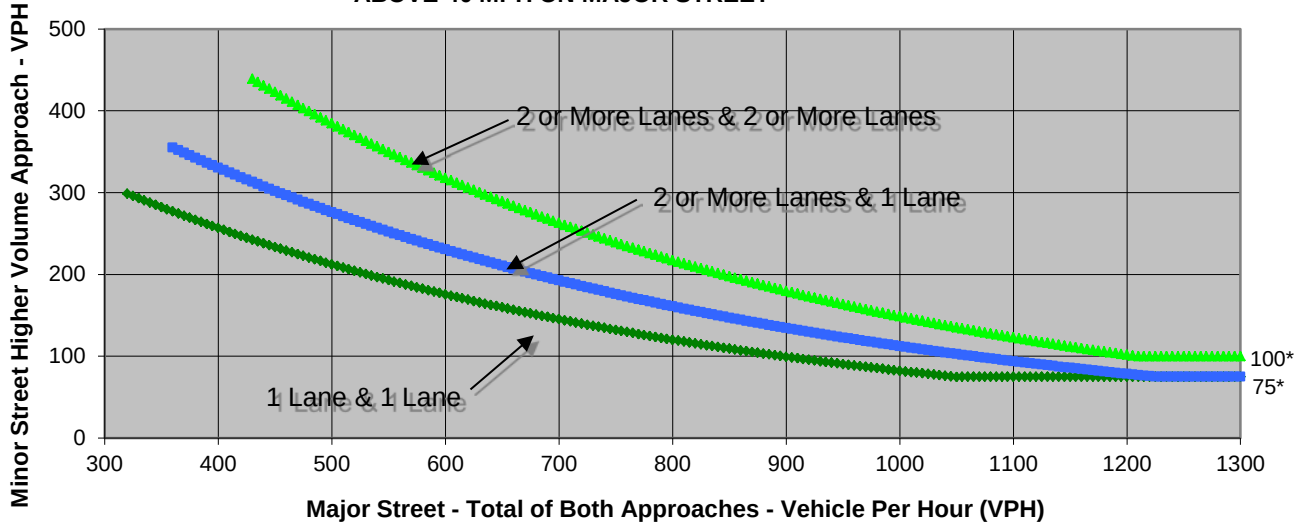
	NB	SB	EB	WB
Left	90	30	30	390
Through	70	100	450	1,090
Right	120	50	200	20
Total	280	180	680	1,500

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**5**	**YES**
Traffic Volume (VPH) *	**2,180**	**280**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alternative 1B
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

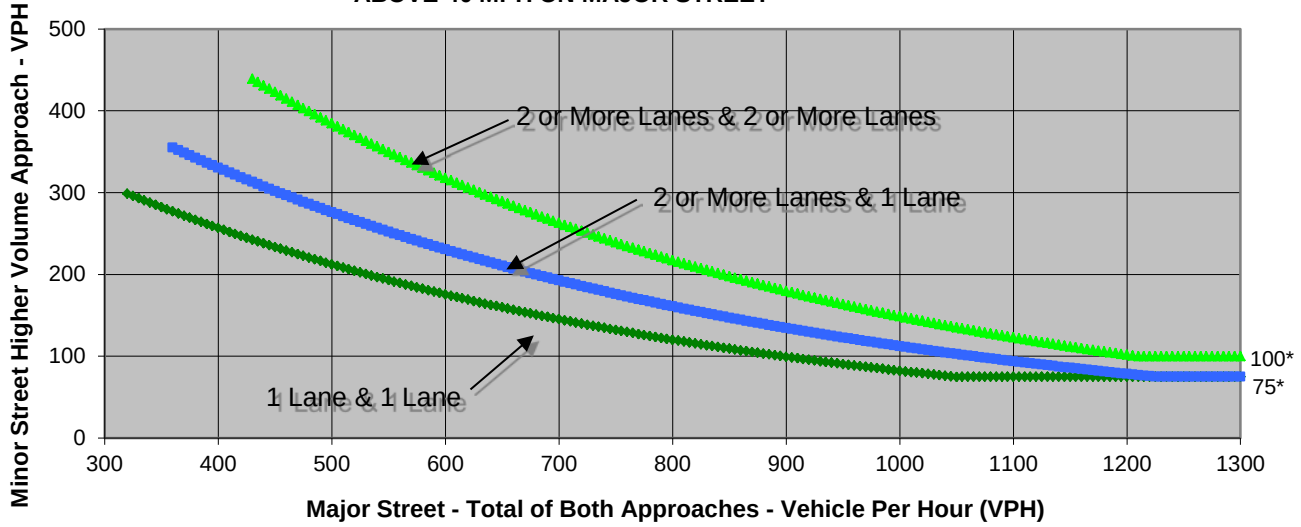
	NB	SB	EB	WB
Left	260	60	20	350
Through	160	140	1,010	880
Right	460	20	170	50
Total	880	220	1,200	1,280

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**5**	**YES**
Traffic Volume (VPH) *	**2,480**	**880**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alternative 2A
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

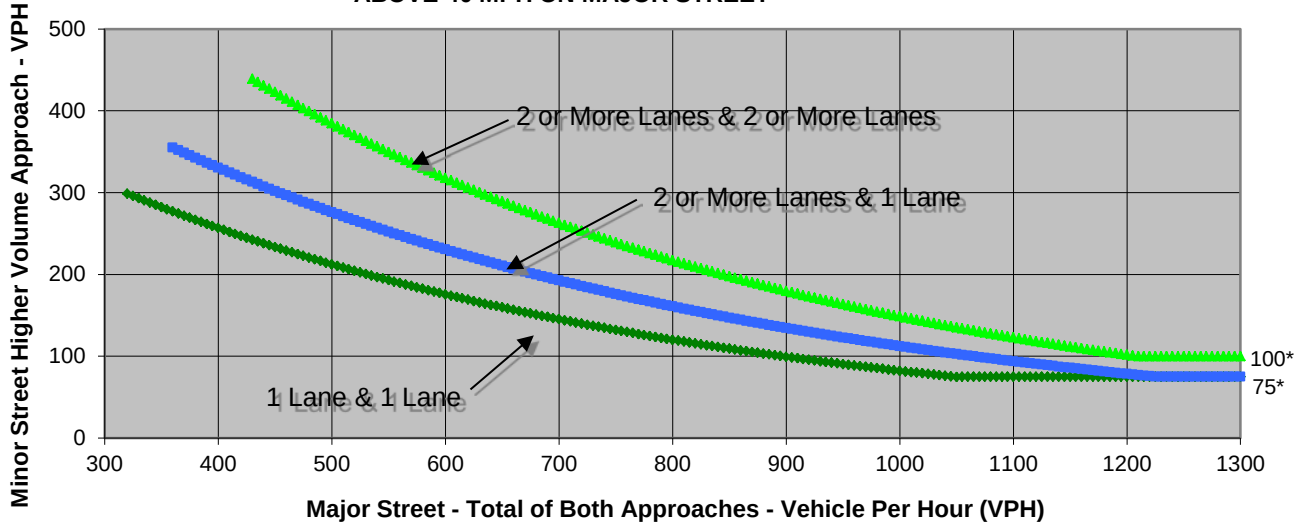
	NB	SB	EB	WB
Left	90	30	30	360
Through	70	100	430	1,030
Right	120	50	220	20
Total	280	180	680	1,410

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**5**	**YES**
Traffic Volume (VPH) *	**2,090**	**280**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alternative 2A
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

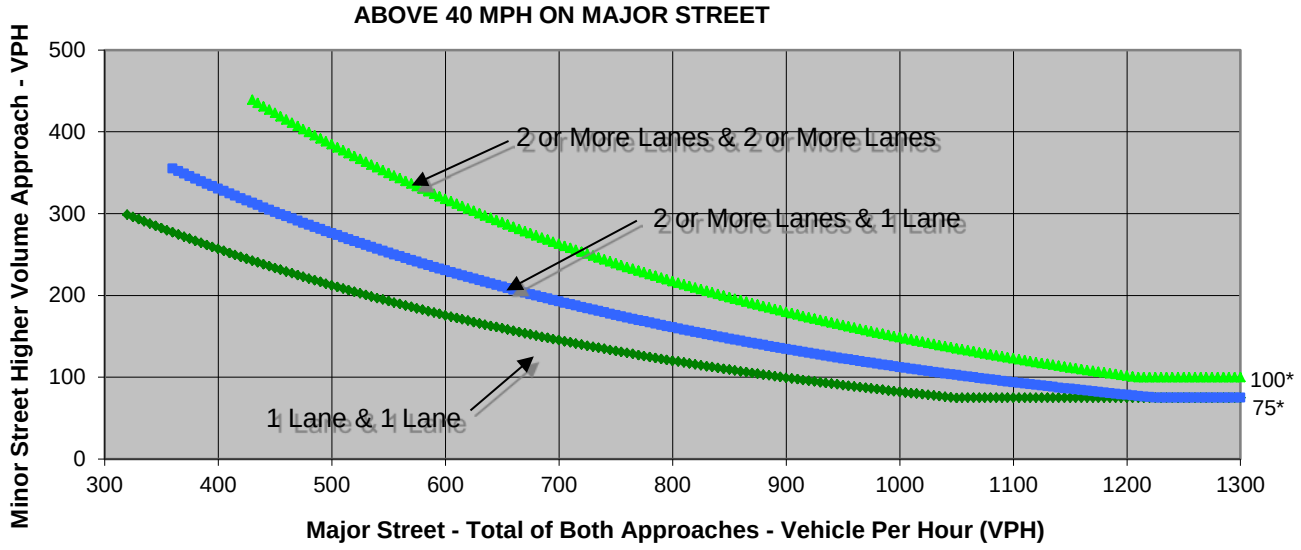
	NB	SB	EB	WB
Left	250	70	20	310
Through	160	140	940	820
Right	480	20	170	40
Total	890	230	1,130	1,170

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**5**	**YES**
Traffic Volume (VPH) *	**2,300**	**890**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alternative 2B
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

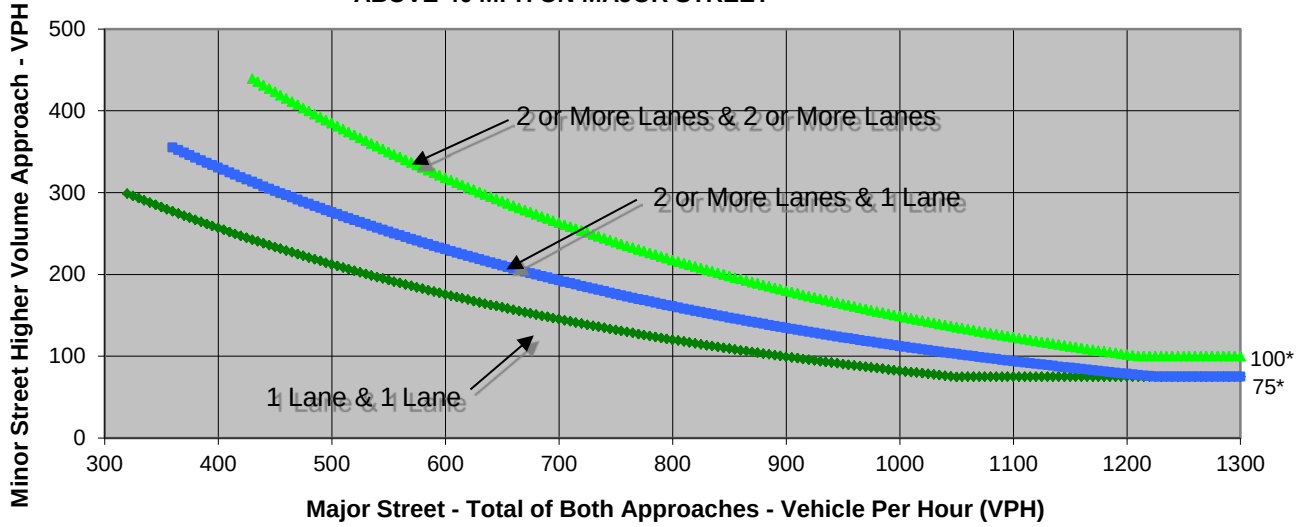
	NB	SB	EB	WB
Left	90	30	30	360
Through	70	100	430	1,030
Right	120	50	220	20
Total	280	180	680	1,410

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**5**	**YES**
Traffic Volume (VPH) *	**2,090**	**280**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alternative 2B
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

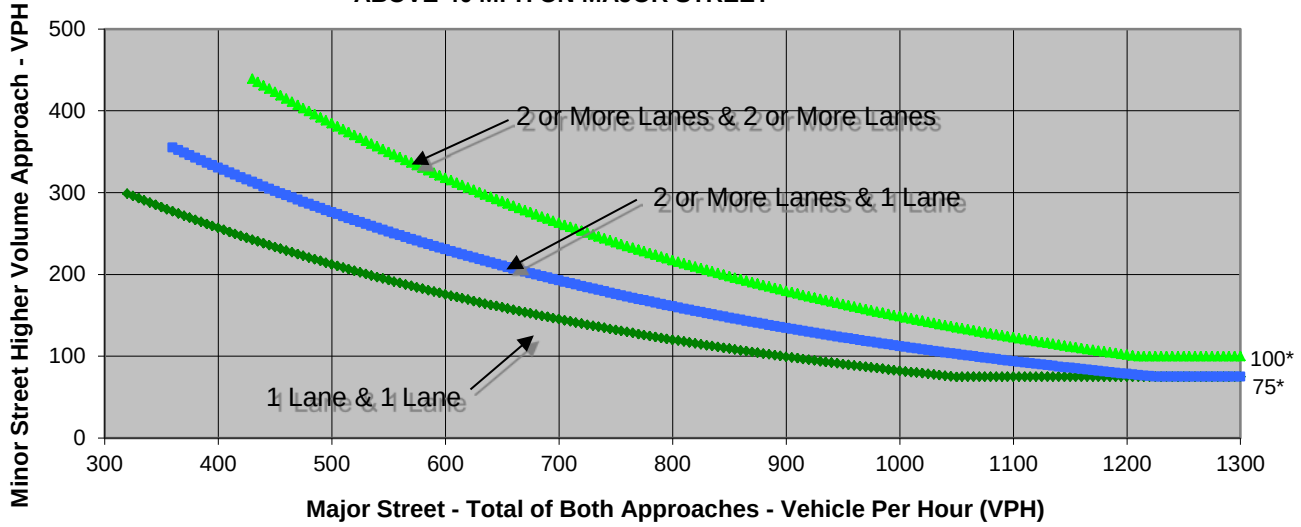
	NB	SB	EB	WB
Left	250	70	20	310
Through	160	140	940	820
Right	480	20	170	40
Total	890	230	1,130	1,170

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**5**	**YES**
Traffic Volume (VPH) *	**2,300**	**890**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

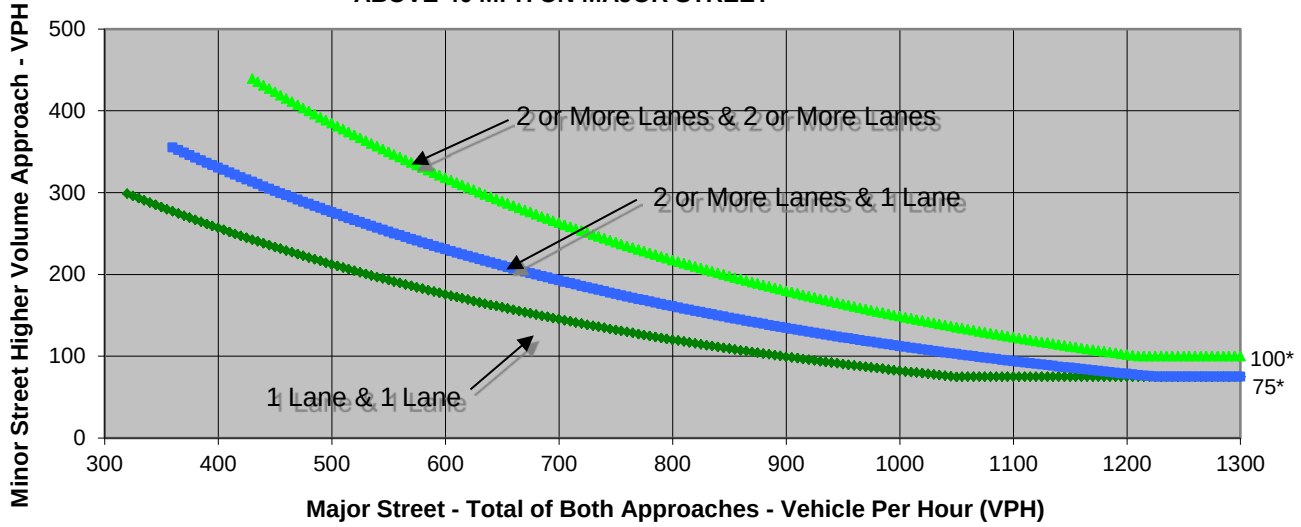
	NB	SB	EB	WB
Left	30	30	20	30
Through	400	790	10	10
Right	20	40	20	40
Total	450	860	50	80

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**NO**
Traffic Volume (VPH) *	**1,310**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

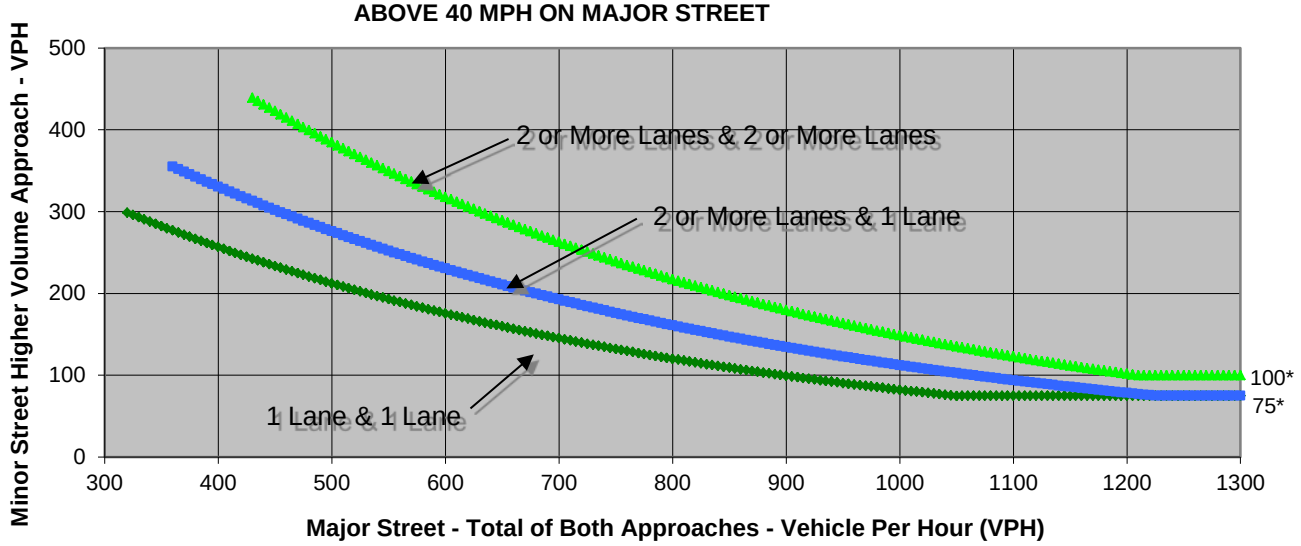
	NB	SB	EB	WB
Left	40	60	80	40
Through	1,130	780	10	10
Right	40	60	70	60
Total	1,210	900	160	110

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**2,110**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

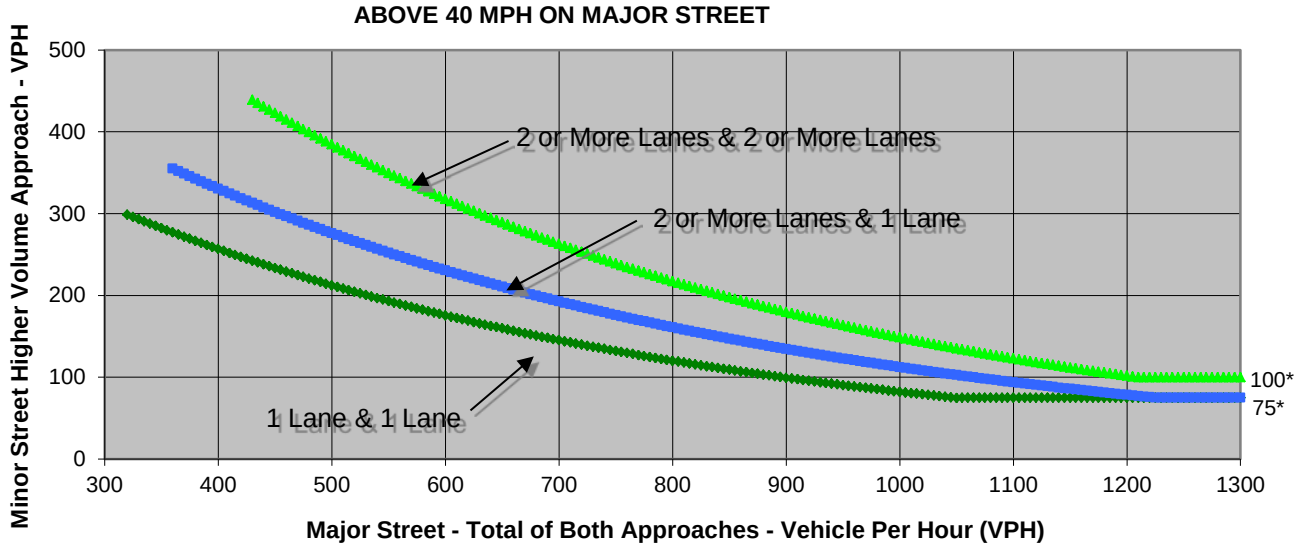
	NB	SB	EB	WB
Left	30	30	20	30
Through	400	790	10	10
Right	20	40	20	40
Total	450	860	50	80

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**NO**
Traffic Volume (VPH) *	**1,310**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

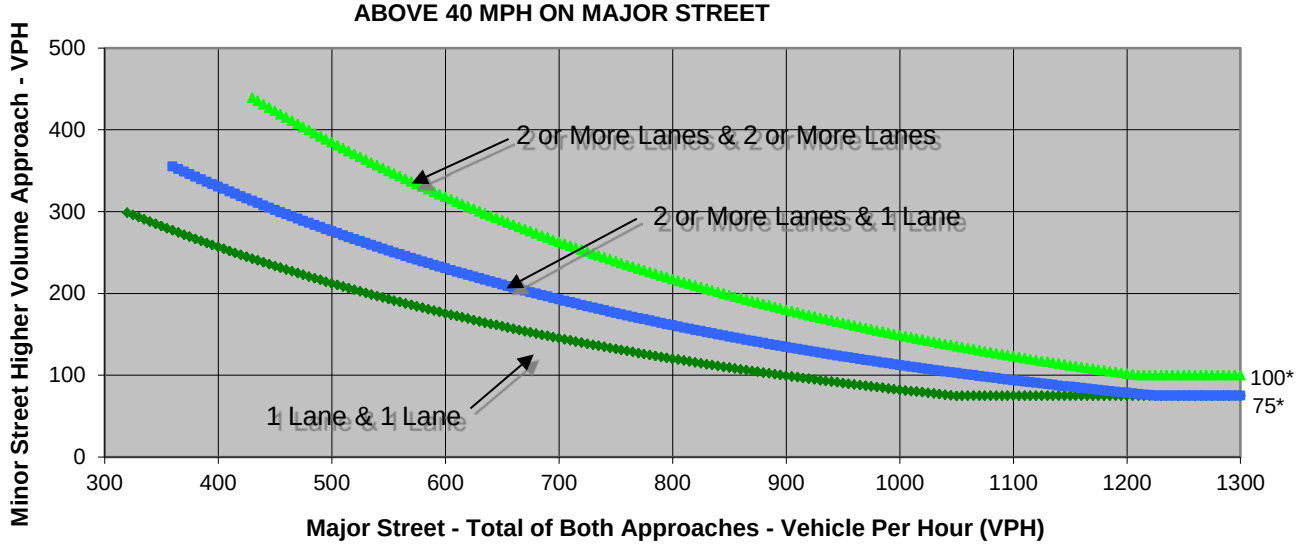
	NB	SB	EB	WB
Left	40	60	80	40
Through	1,130	780	10	10
Right	40	60	70	60
Total	1,210	900	160	110

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**2,110**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

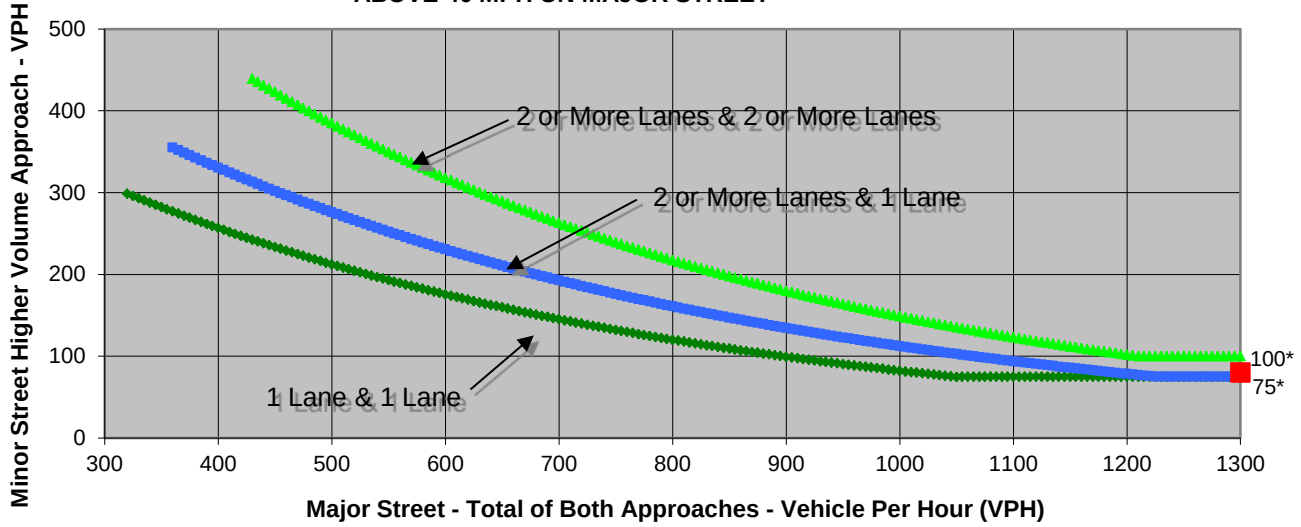
	NB	SB	EB	WB
Left	30	30	20	30
Through	420	770	10	10
Right	20	30	20	40
Total	470	830	50	80

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**NO**
Traffic Volume (VPH) *	**1,300**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

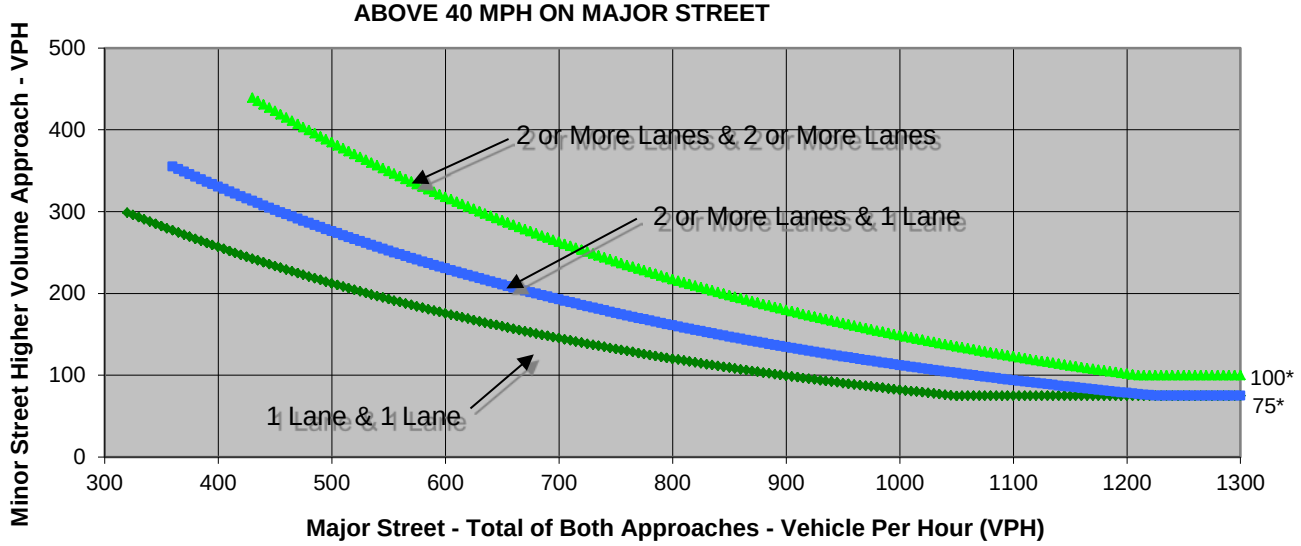
	NB	SB	EB	WB
Left	40	60	80	40
Through	1,000	730	10	10
Right	40	60	70	60
Total	1,080	850	160	110

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,930**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

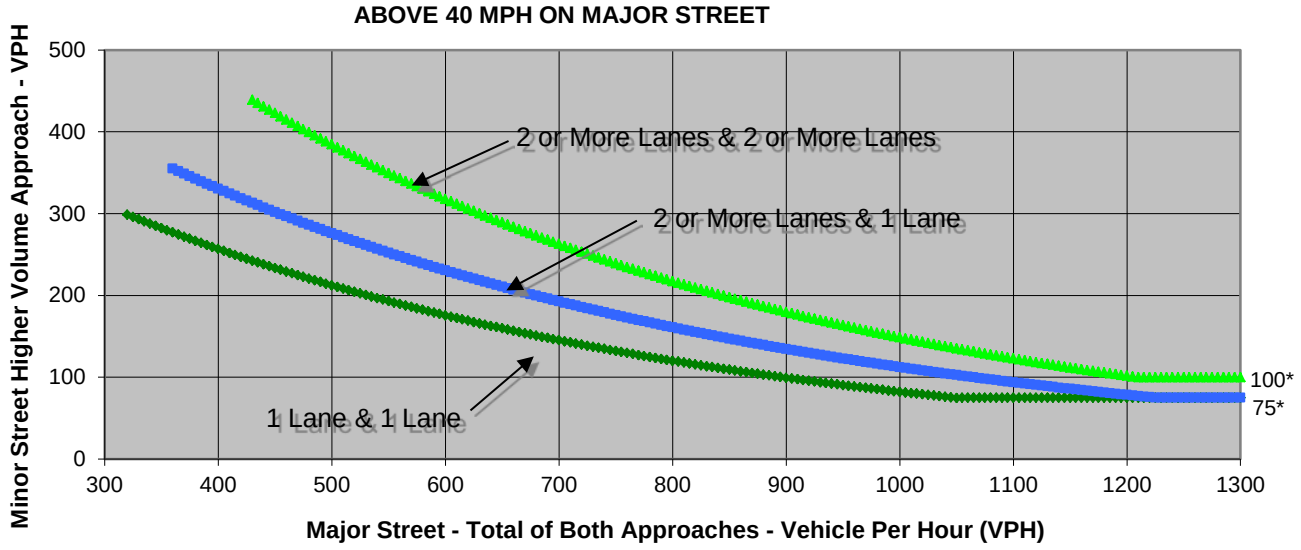
	NB	SB	EB	WB
Left	30	30	20	30
Through	420	770	10	10
Right	20	40	20	40
Total	470	840	50	80

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**NO**
Traffic Volume (VPH) *	**1,310**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

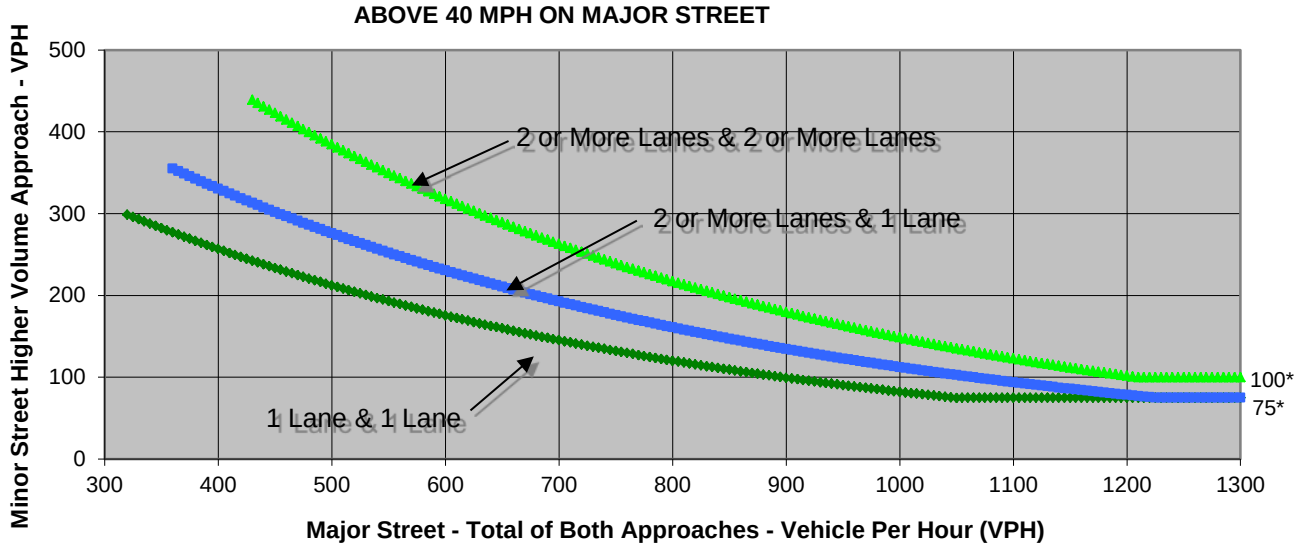
	NB	SB	EB	WB
Left	40	60	80	40
Through	1,000	730	10	10
Right	40	63	70	60
Total	1,080	853	160	110

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,933**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	NCC
Minor Street	N Stearns Road

Turn Movement Volumes

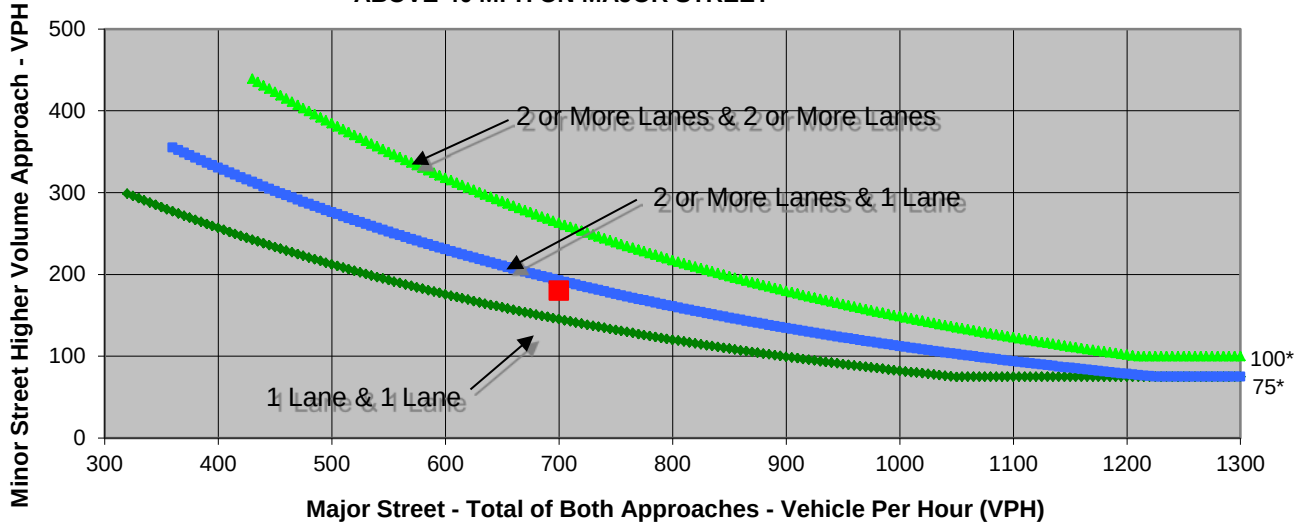
	NB	SB	EB	WB
Left	10	10	160	10
Through	10	10	250	260
Right	10	160	10	10
Total	30	180	420	280

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	N Stearns Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**700**	**180**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	NCC
Minor Street	N Stearns Road

Turn Movement Volumes

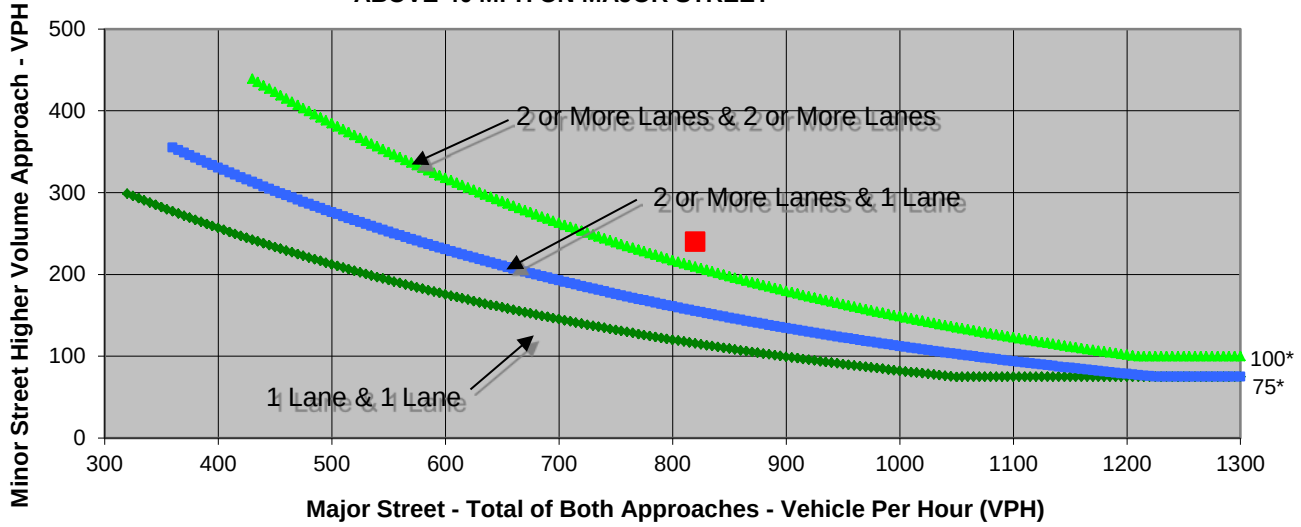
	NB	SB	EB	WB
Left	10	10	220	10
Through	10	10	320	250
Right	10	220	10	10
Total	30	240	550	270

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	N Stearns Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**820**	**240**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	NCC
Minor Street	N Stearns Road

Turn Movement Volumes

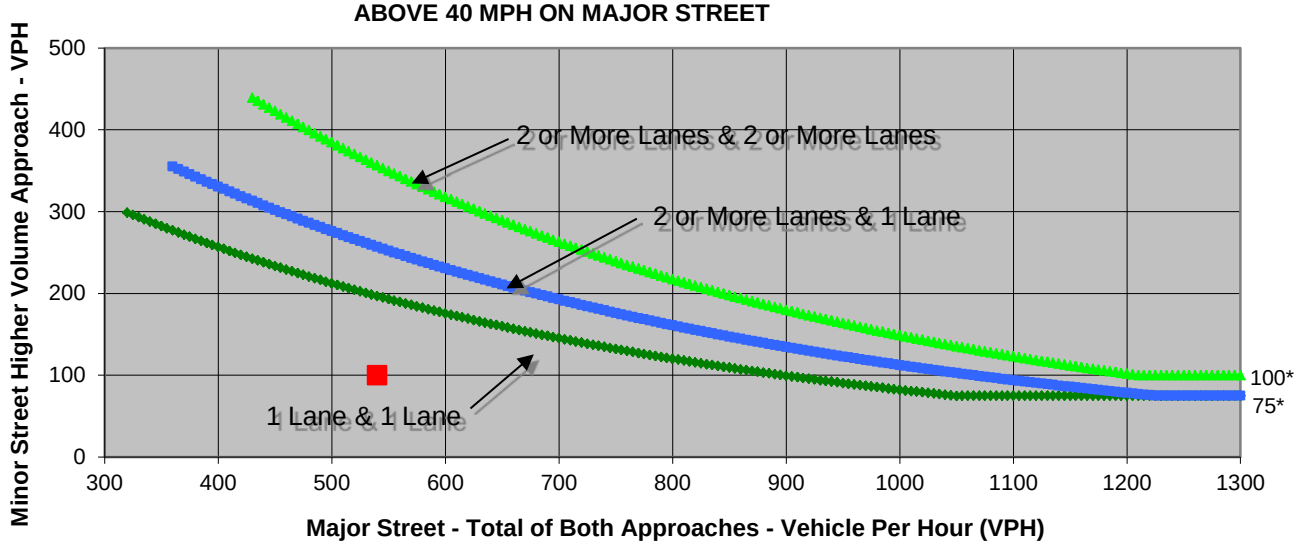
	NB	SB	EB	WB
Left	30	10	110	10
Through	10	10	190	210
Right	10	80	10	10
Total	50	100	310	230

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	N Stearns Road	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**540**	**100**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	NCC
Minor Street	N Stearns Road

Turn Movement Volumes

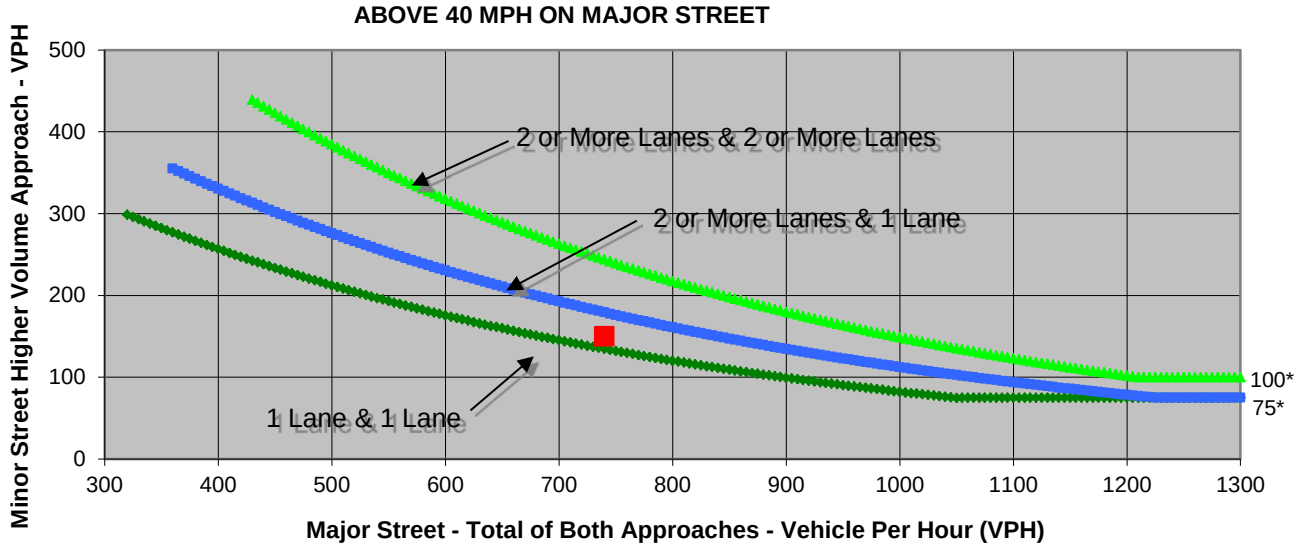
	NB	SB	EB	WB
Left	30	10	130	10
Through	10	10	310	240
Right	10	130	40	10
Total	50	150	480	260

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	N Stearns Road	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**740**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	NCC
Minor Street	N Stearns Road

Turn Movement Volumes

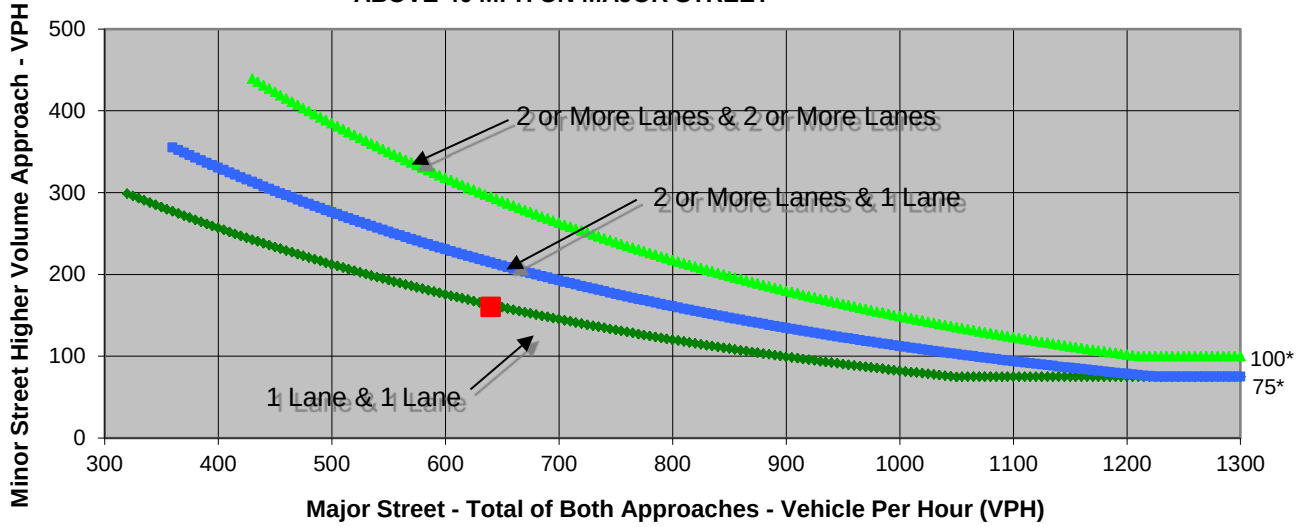
	NB	SB	EB	WB
Left	10	10	170	10
Through	10	10	210	230
Right	10	140	10	10
Total	30	160	390	250

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	N Stearns Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**640**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	NCC
Minor Street	N Stearns Road

Turn Movement Volumes

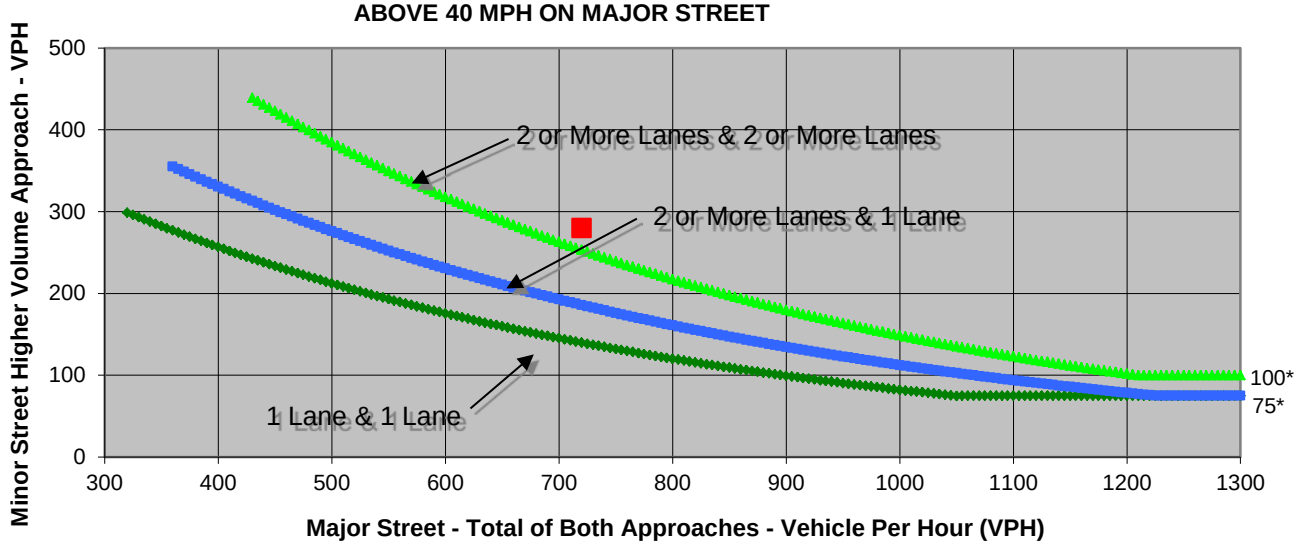
	NB	SB	EB	WB
Left	10	20	250	10
Through	10	10	260	180
Right	10	250	10	10
Total	30	280	520	200

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	N Stearns Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**720**	**280**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	NCC
Minor Street	New Access Road

Turn Movement Volumes

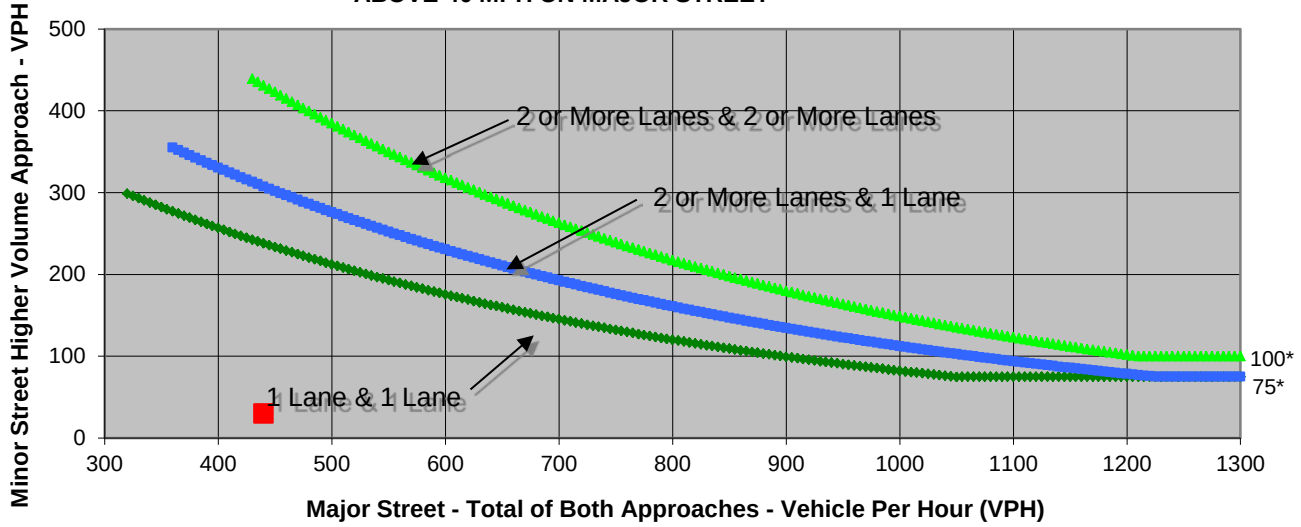
	NB	SB	EB	WB
Left	10	10	10	10
Through	190	210	10	10
Right	10	10	10	10
Total	210	230	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	New Access Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**440**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	NCC
Minor Street	New Access Road

Turn Movement Volumes

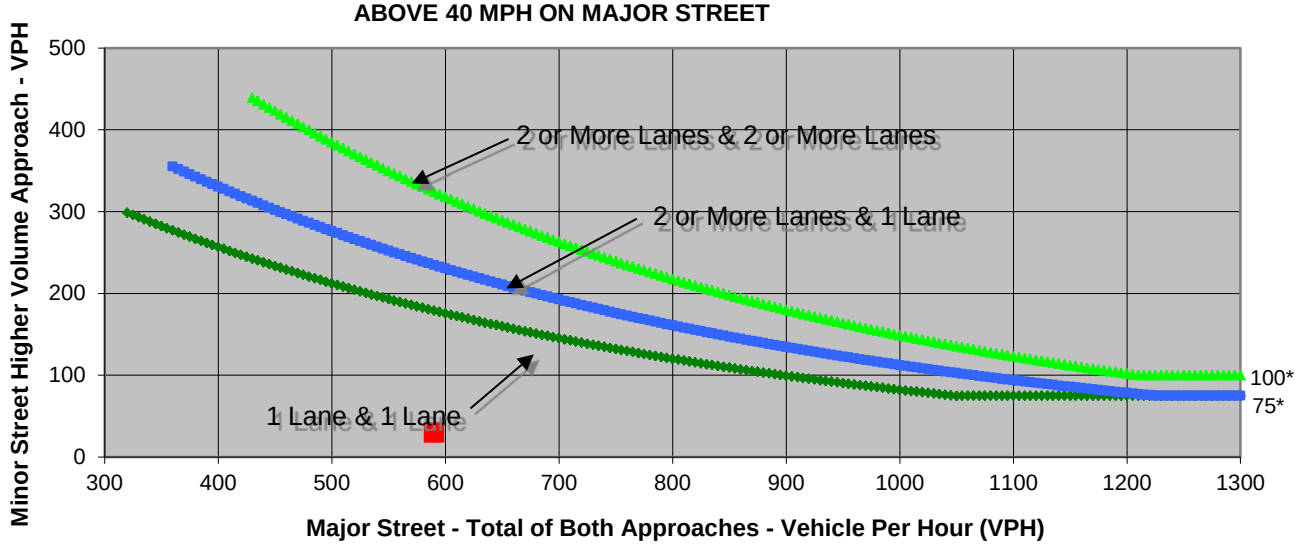
	NB	SB	EB	WB
Left	10	10	10	10
Through	310	240	10	10
Right	10	10	10	10
Total	330	260	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	New Access Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**590**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	NCC
Minor Street	New Access Road

Turn Movement Volumes

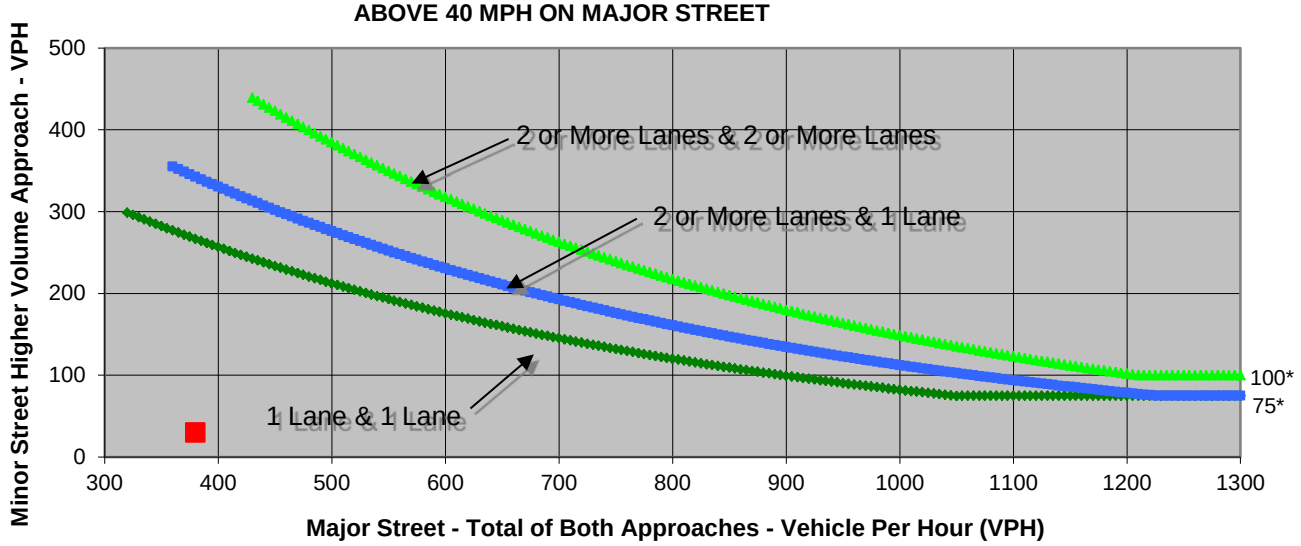
	NB	SB	EB	WB
Left	10	10	10	10
Through	150	190	10	10
Right	10	10	10	10
Total	170	210	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	New Access Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**380**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	NCC
Minor Street	New Access Road

Turn Movement Volumes

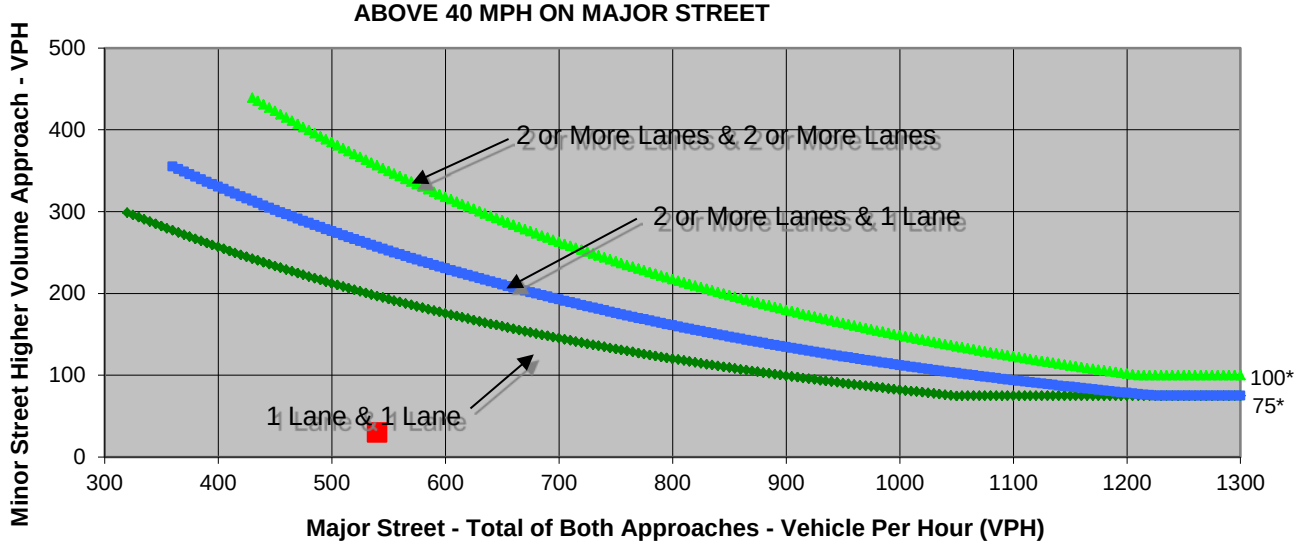
	NB	SB	EB	WB
Left	10	10	10	10
Through	280	220	10	10
Right	10	10	10	10
Total	300	240	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	New Access Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**540**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

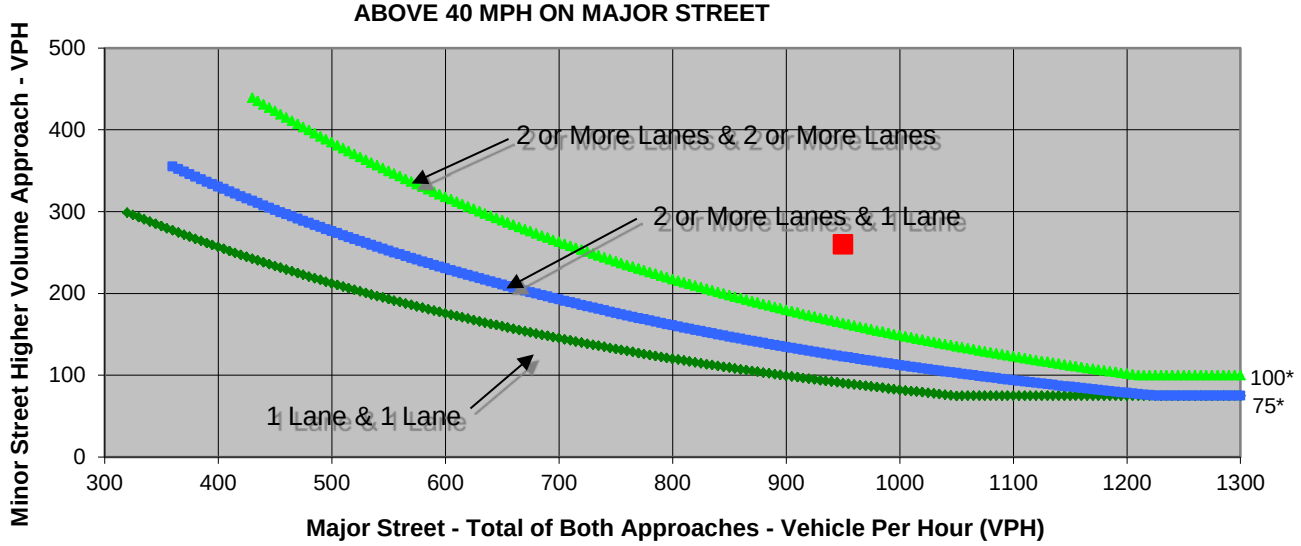
	NB	SB	EB	WB
Left	0	90	0	60
Through	370	460	0	0
Right	30	0	0	200
Total	400	550	0	260

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**950**	**260**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

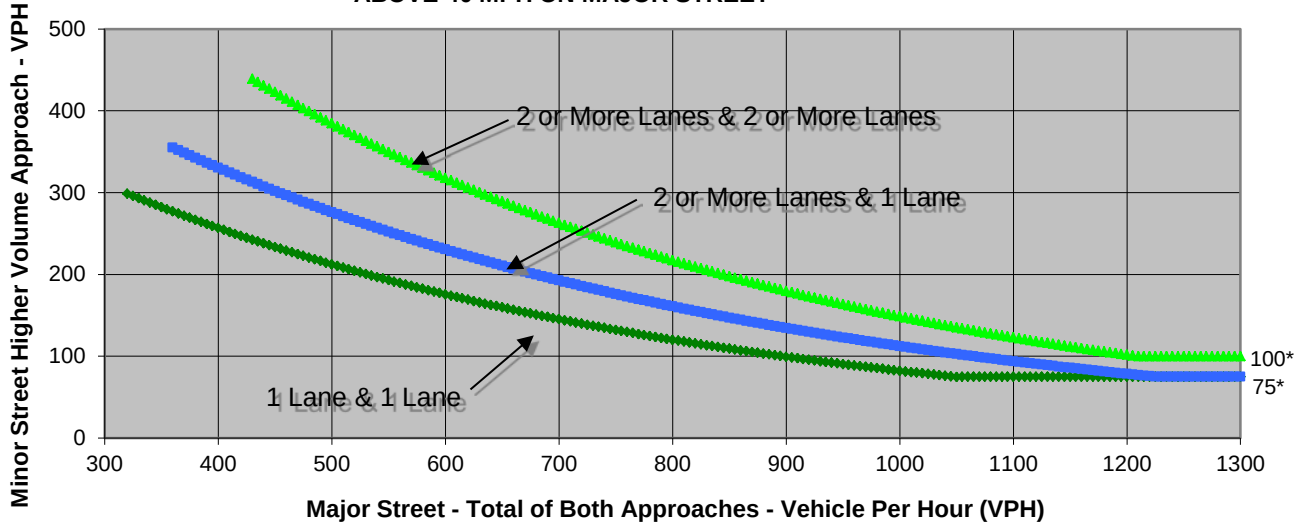
	NB	SB	EB	WB
Left	0	260		50
Through	680	640		0
Right	60	0		150
Total	740	900	0	200

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,640**	**200**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

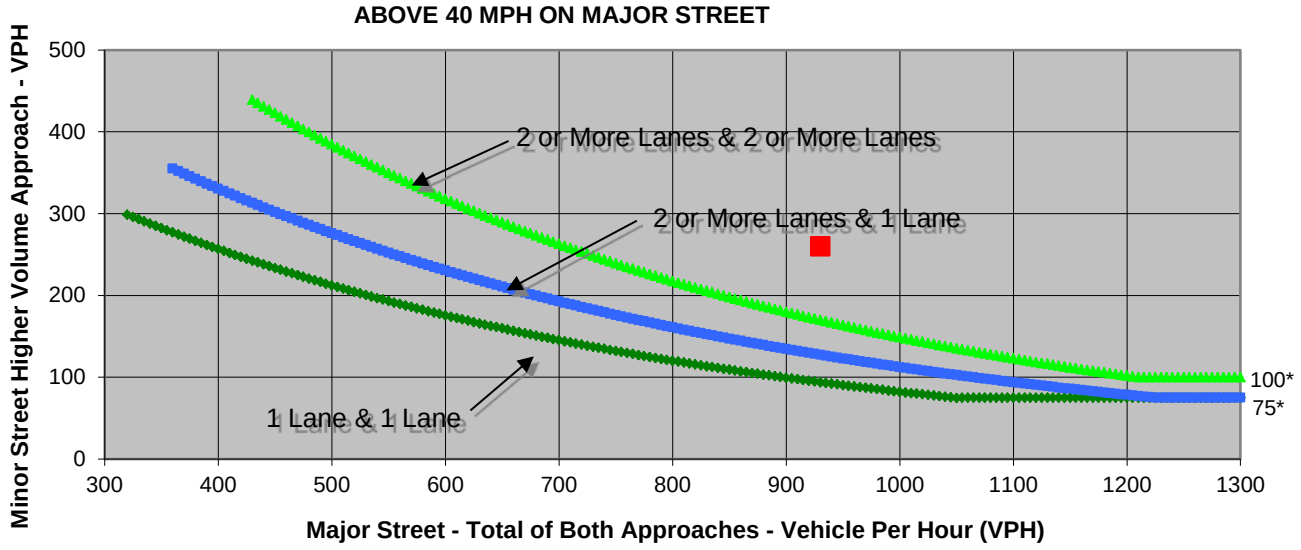
	NB	SB	EB	WB
Left	0	90	0	60
Through	370	440	0	0
Right	30	0	0	200
Total	400	530	0	260

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**930**	**260**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

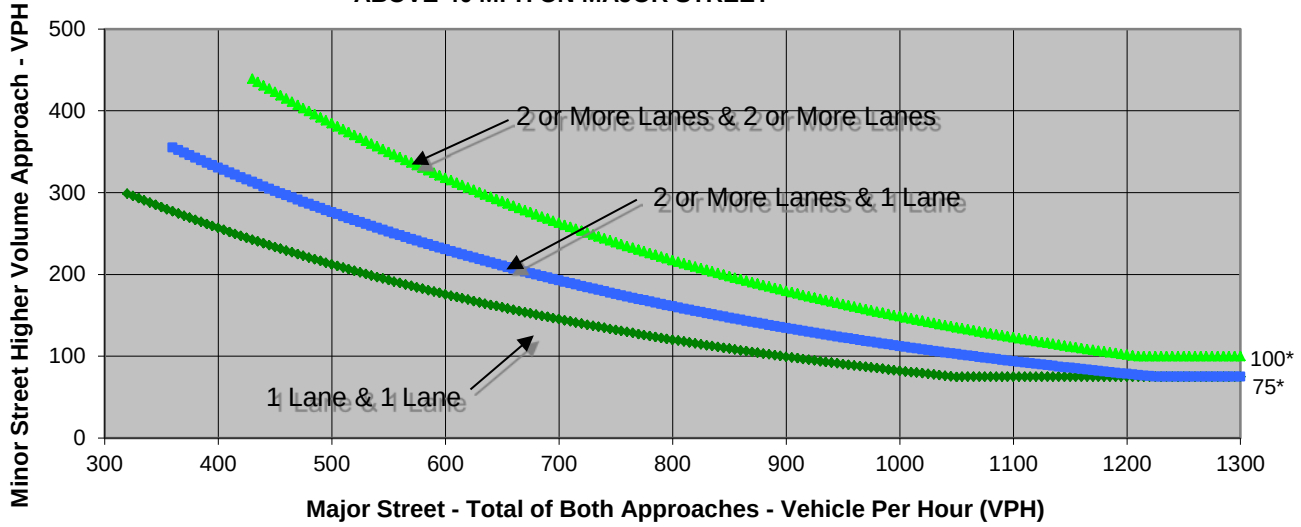
	NB	SB	EB	WB
Left	0	260	0	50
Through	660	640	0	0
Right	60	0	0	150
Total	720	900	0	200

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,620**	**200**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

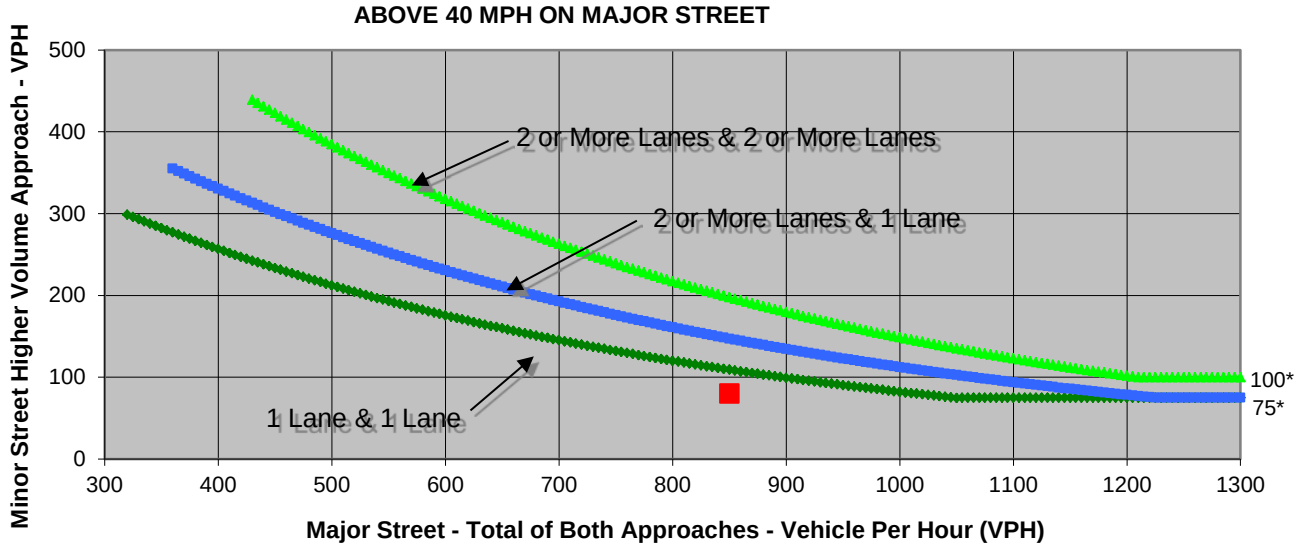
	NB	SB	EB	WB
Left	0	40	0	40
Through	360	410	0	0
Right	40	0	0	40
Total	400	450	0	80

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**850**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

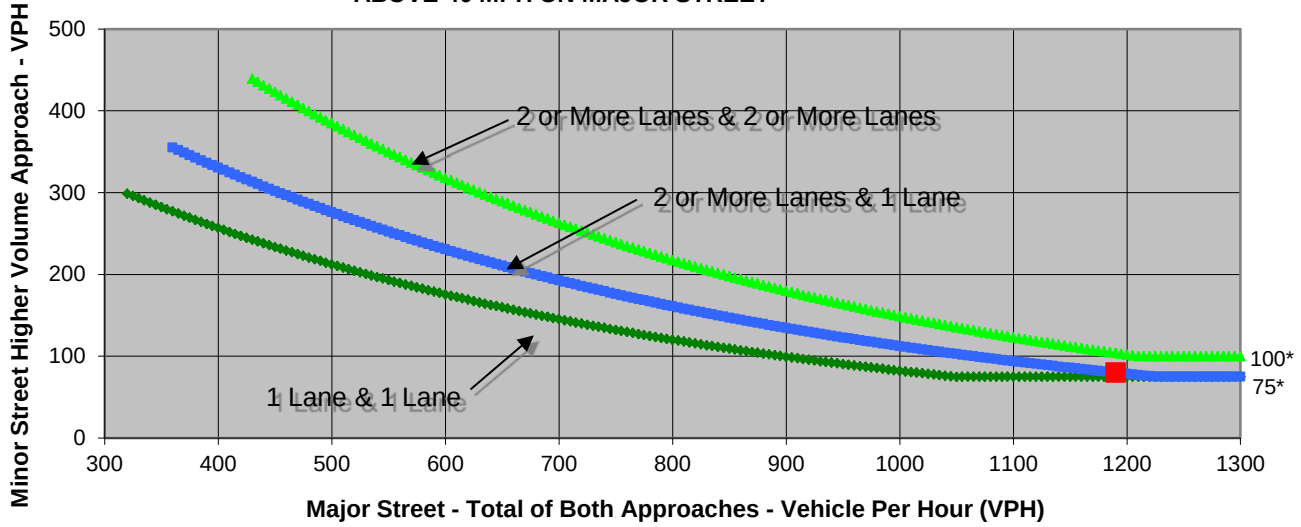
	NB	SB	EB	WB
Left	0	40	0	40
Through	520	590	0	0
Right	40	0	0	40
Total	560	630	0	80

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,190**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

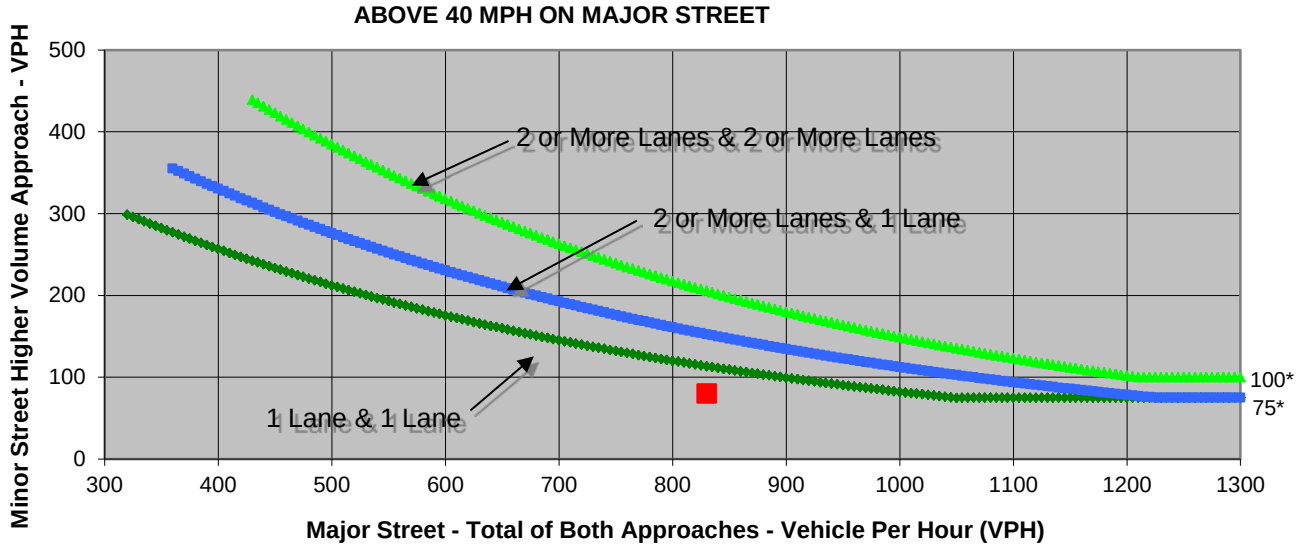
	NB	SB	EB	WB
Left	0	40	0	40
Through	360	390	0	0
Right	40	0	0	40
Total	400	430	0	80

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**830**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

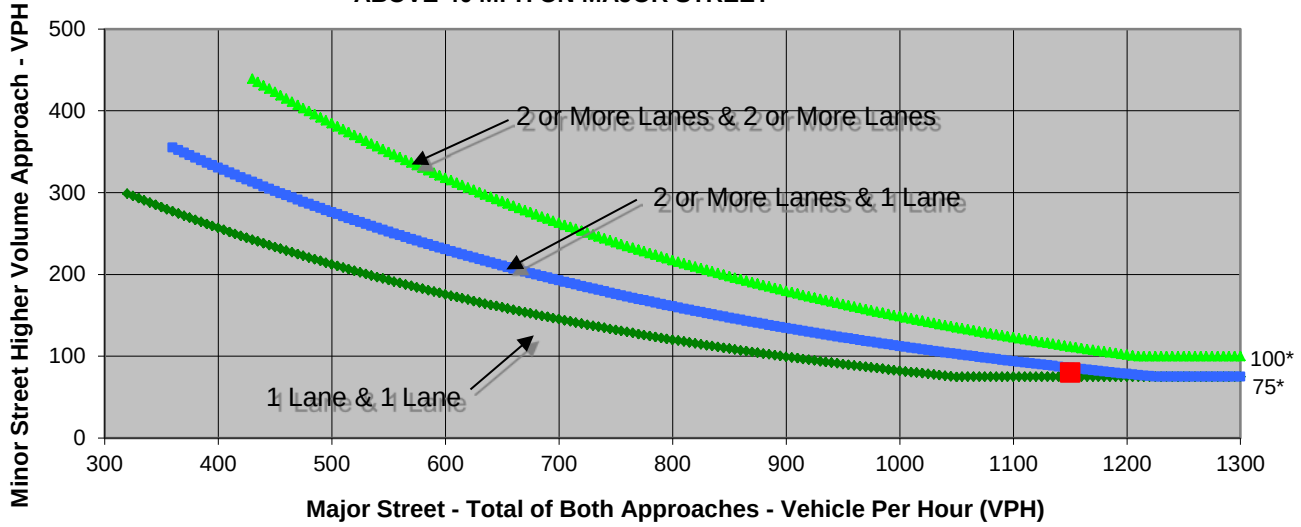
	NB	SB	EB	WB
Left	0	40	0	40
Through	490	580	0	0
Right	40	0	0	40
Total	530	620	0	80

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,150**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

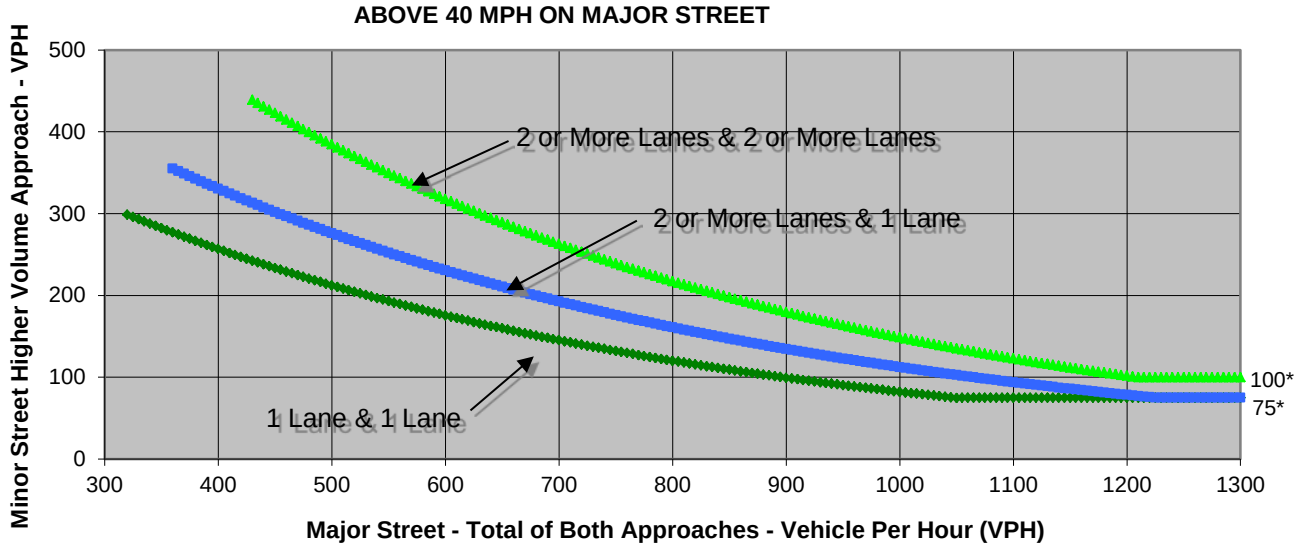
	NB	SB	EB	WB
Left	10	10	30	20
Through	770	730	10	10
Right	10	10	30	20
Total	790	750	70	50

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,540**	**70**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

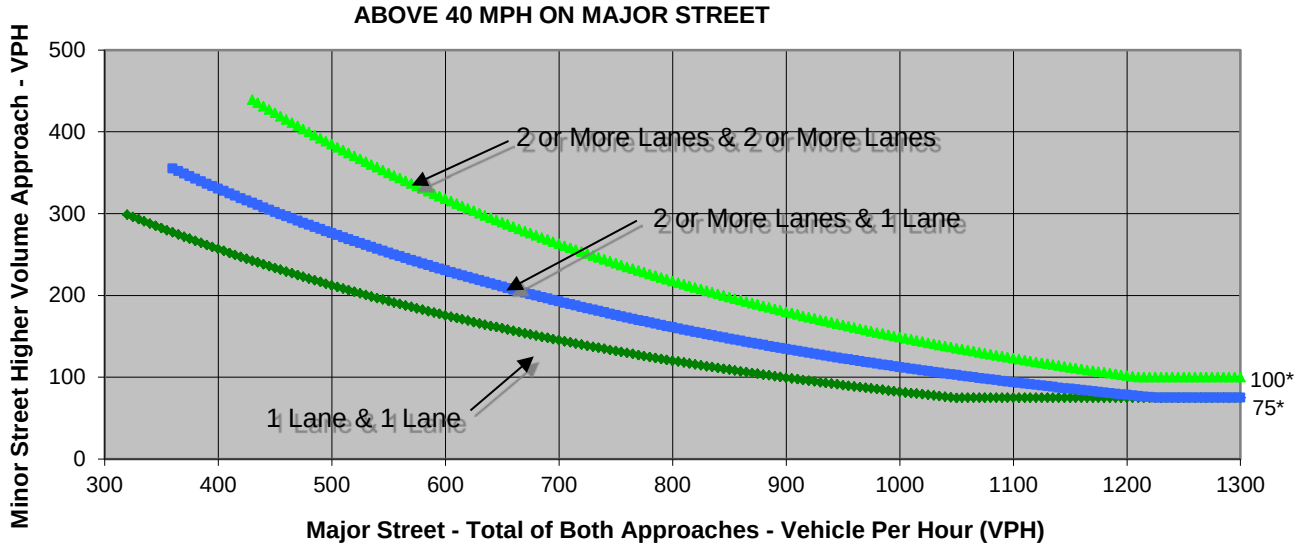
	NB	SB	EB	WB
Left	20	40	20	10
Through	640	850	10	10
Right	20	40	20	10
Total	680	930	50	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,610**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

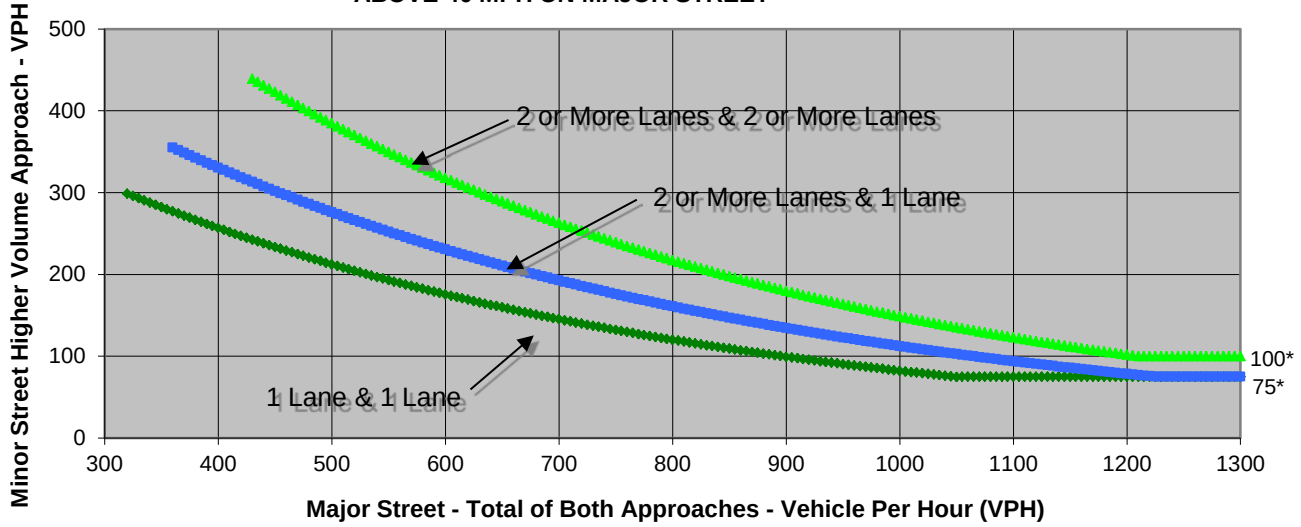
	NB	SB	EB	WB
Left	10	10	30	20
Through	770	740	10	10
Right	10	10	30	20
Total	790	760	70	50

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,550**	**70**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

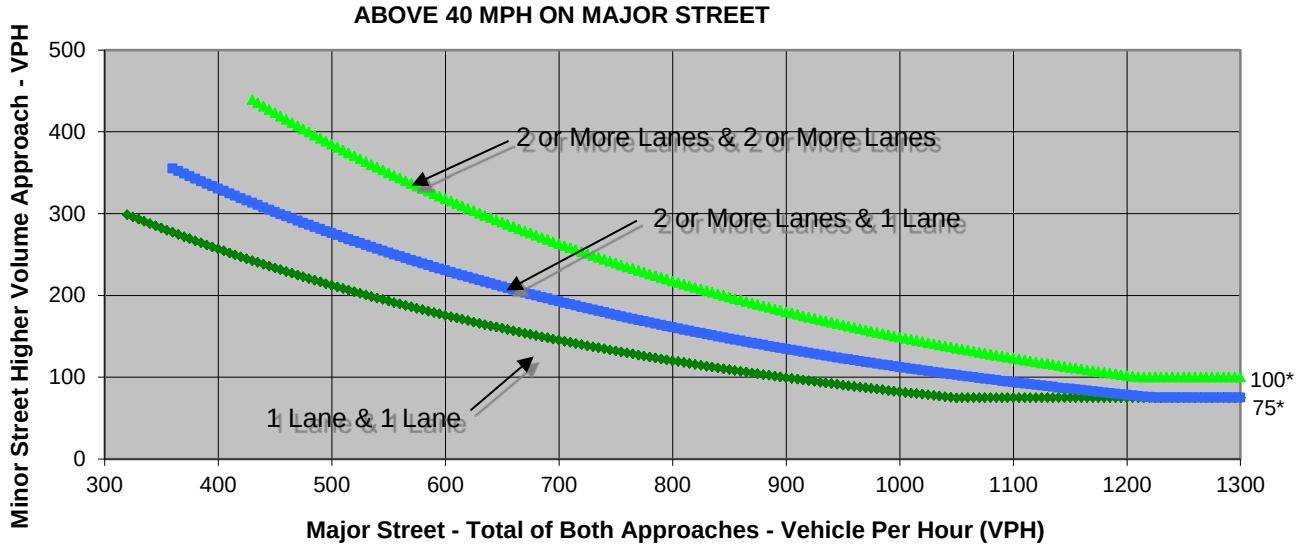
	NB	SB	EB	WB
Left	20	40	20	10
Through	640	850	10	10
Right	20	40	20	10
Total	680	930	50	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,610**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

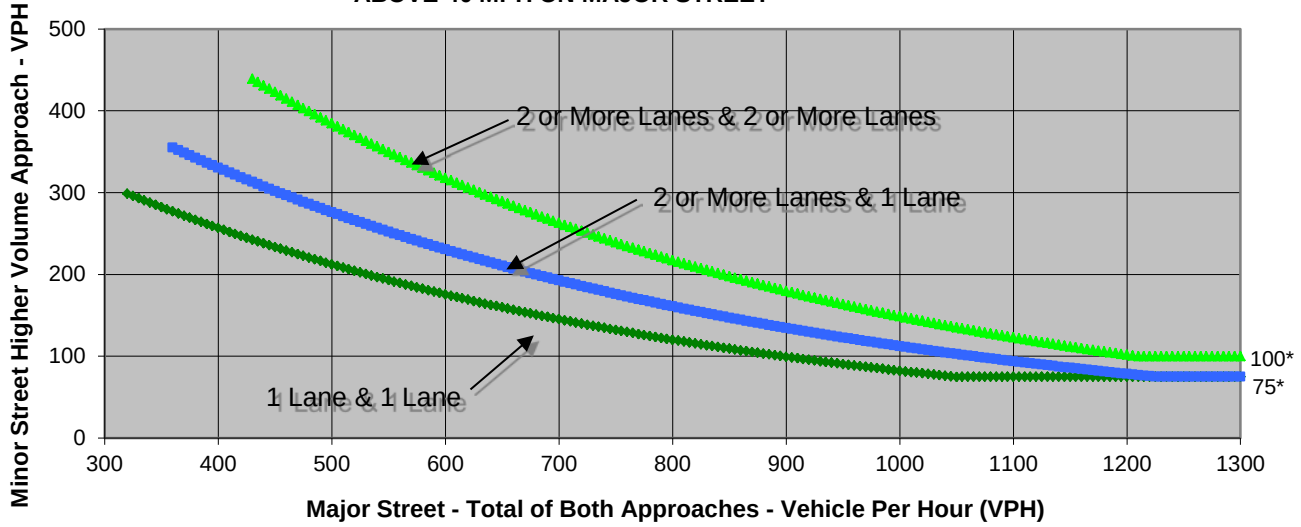
	NB	SB	EB	WB
Left	10	10	30	20
Through	760	730	10	10
Right	10	10	30	20
Total	780	750	70	50

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,530**	**70**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

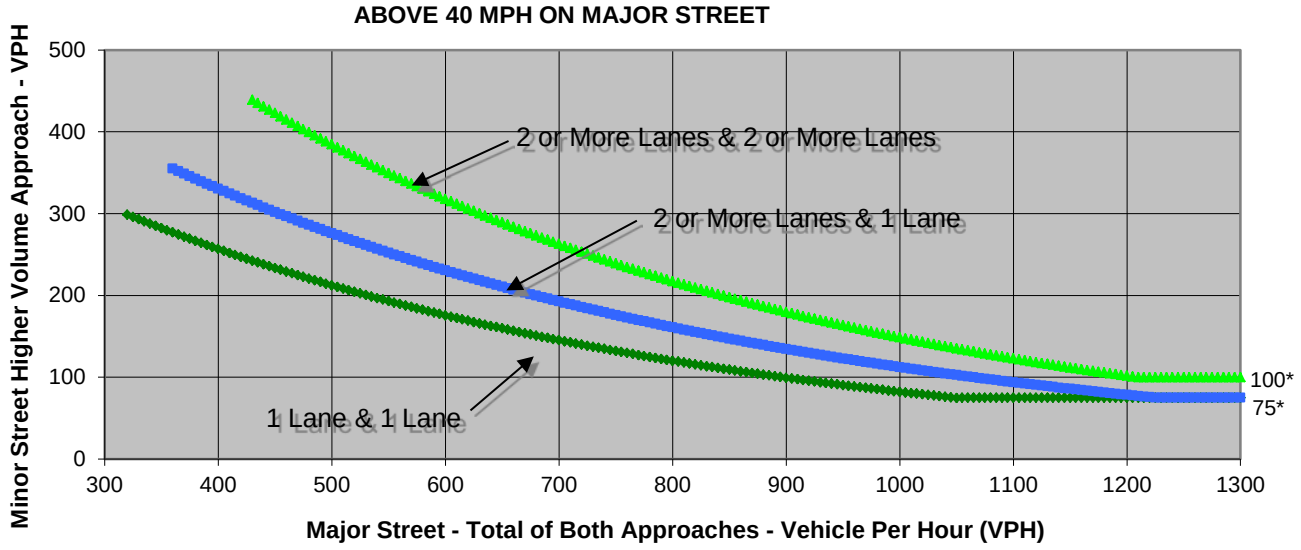
	NB	SB	EB	WB
Left	20	40	20	10
Through	680	840	10	10
Right	20	40	20	10
Total	720	920	50	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,640**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

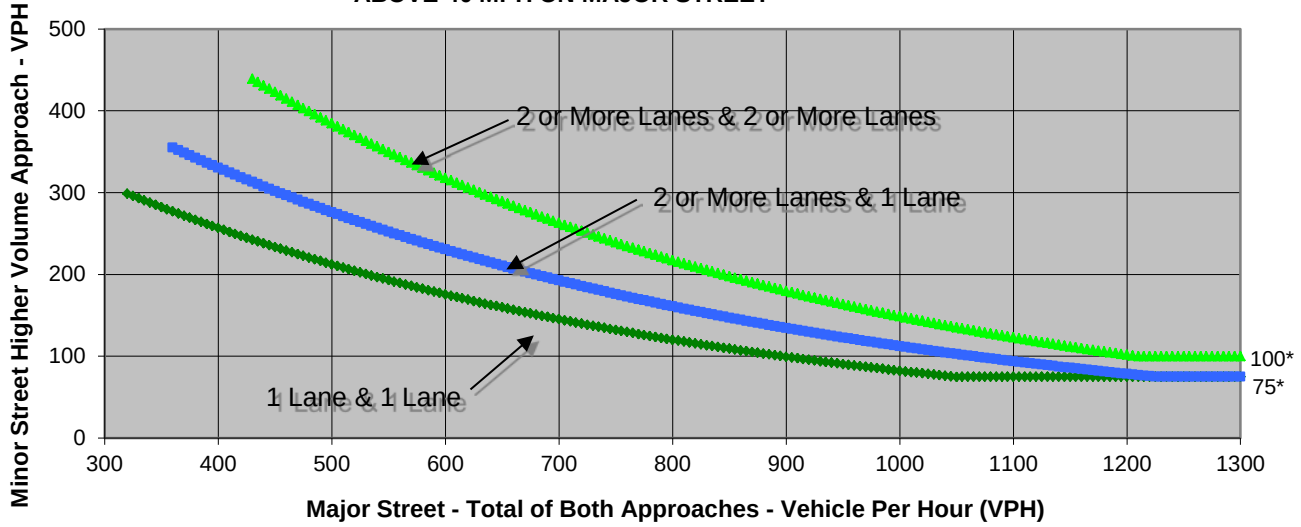
	NB	SB	EB	WB
Left	10	10	30	20
Through	760	730	10	10
Right	10	10	30	20
Total	780	750	70	50

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,530**	**70**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

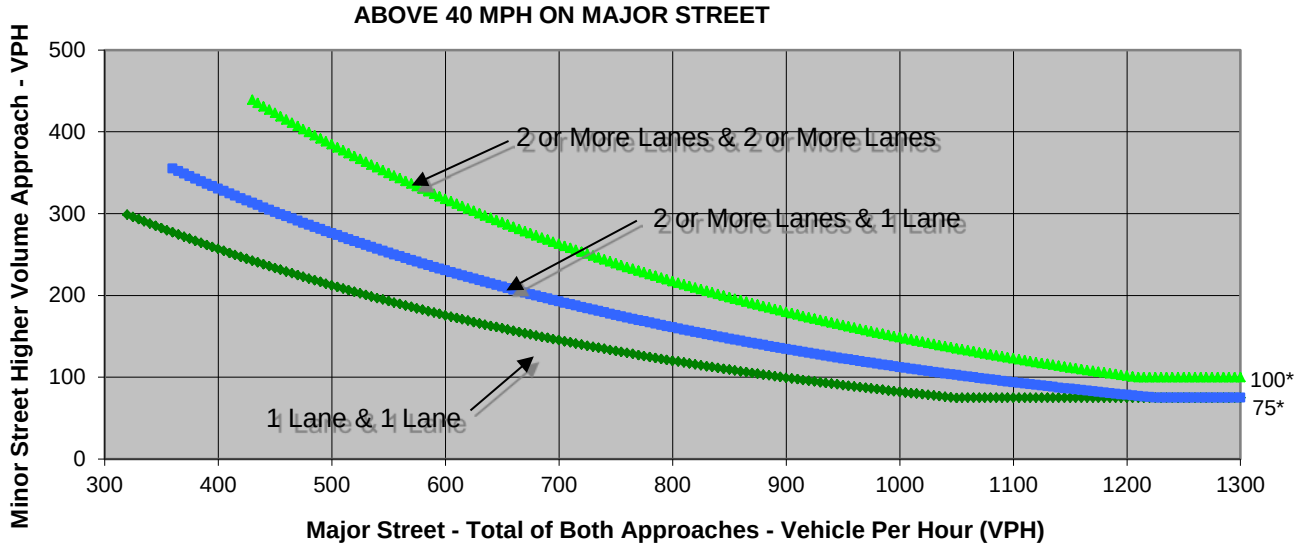
	NB	SB	EB	WB
Left	20	40	20	10
Through	650	850	10	10
Right	20	40	20	10
Total	690	930	50	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,620**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 No Project
Peak Hour	AM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

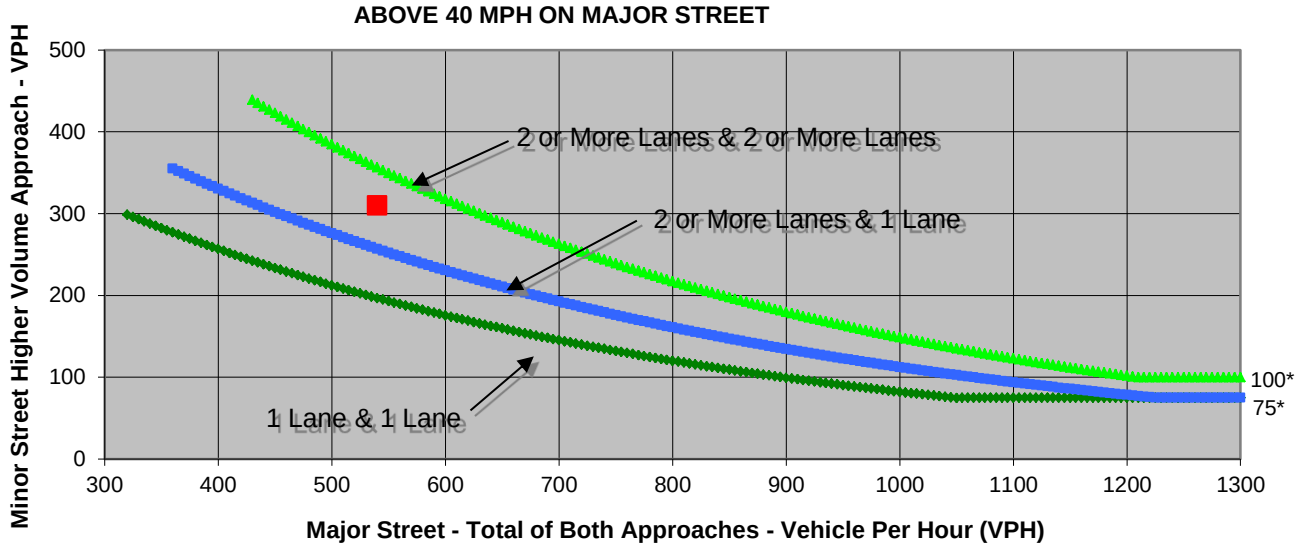
	NB	SB	EB	WB
Left	0	60	130	0
Through	0	0	210	160
Right	0	250	0	40
Total	0	310	340	200

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**540**	**310**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 No Project
Peak Hour	PM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

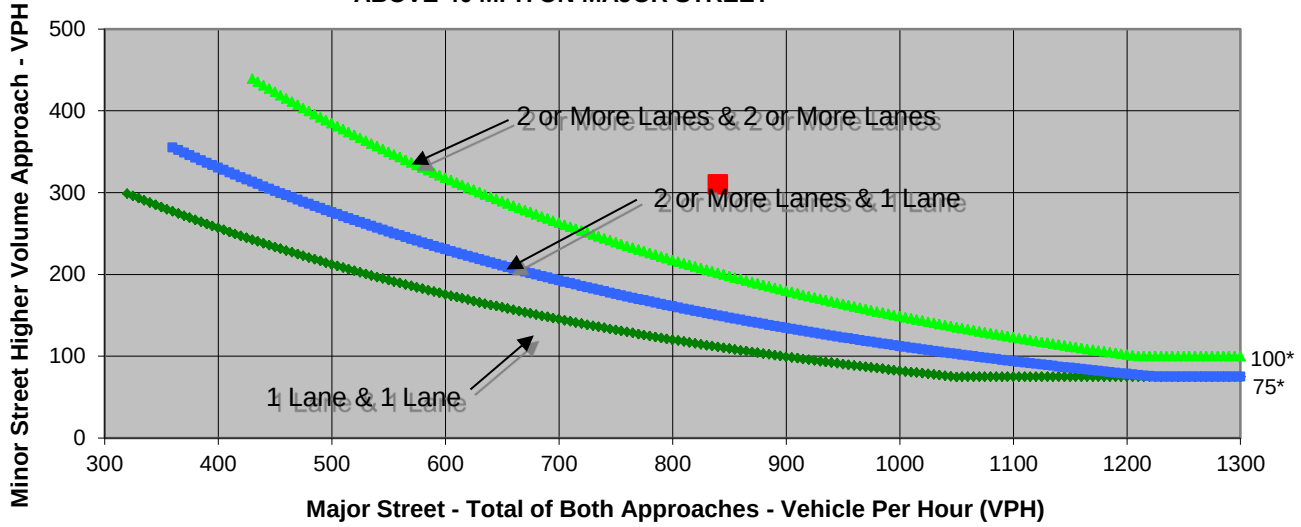
	NB	SB	EB	WB
Left	0	60	340	0
Through	0	0	200	230
Right	0	250	0	70
Total	0	310	540	300

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**840**	**310**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

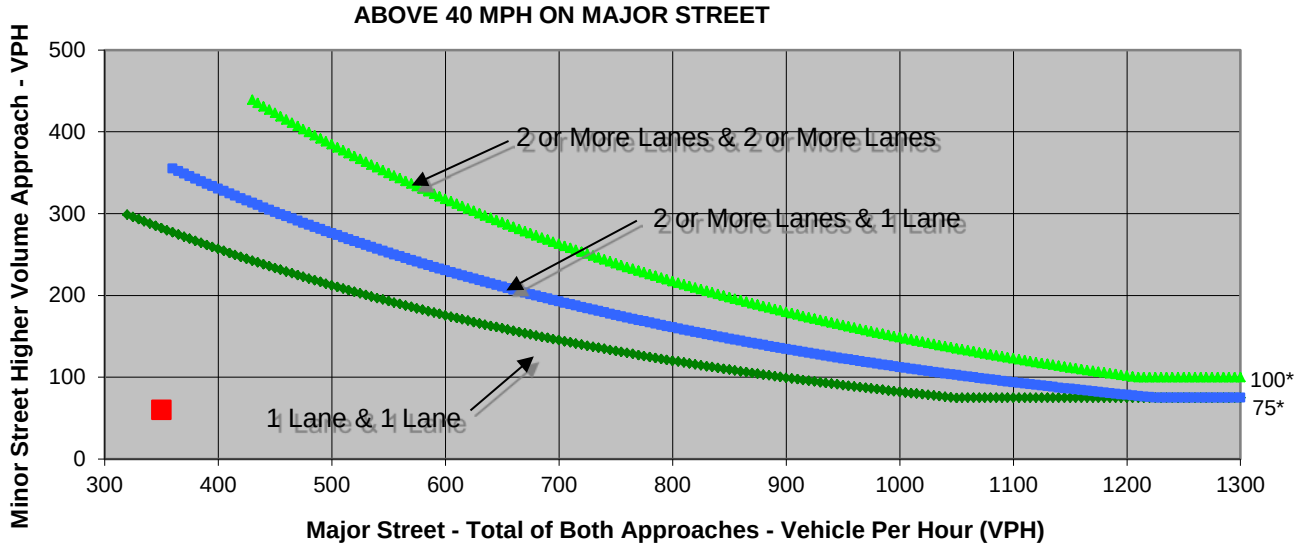
	NB	SB	EB	WB
Left	10	40	120	10
Through	10	10	50	120
Right	10	10	10	40
Total	30	60	180	170

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**350**	**60**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

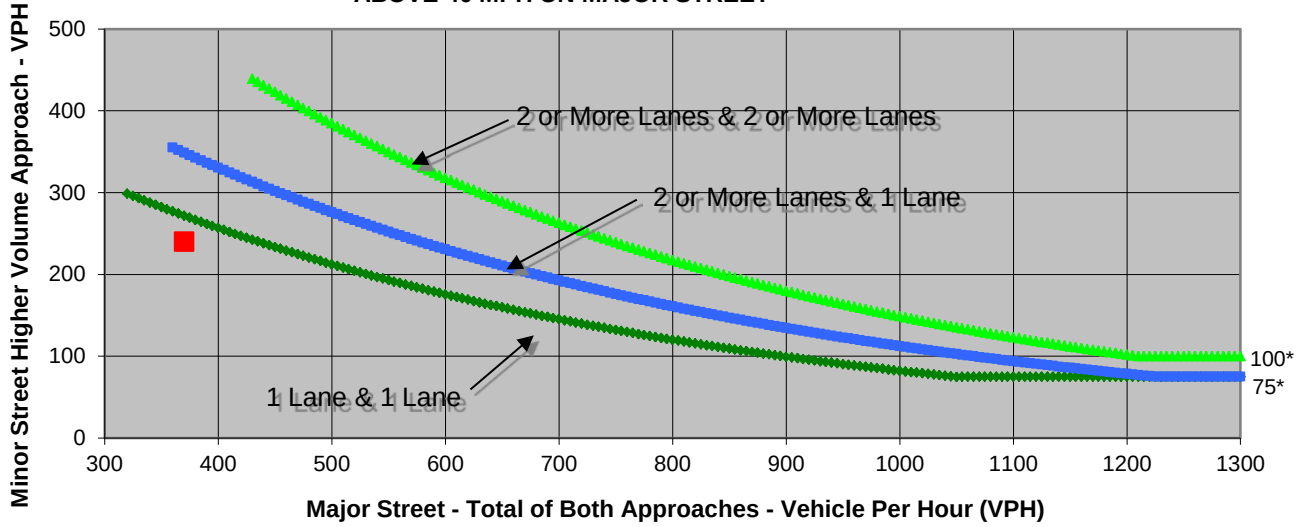
	NB	SB	EB	WB
Left	110	40	110	10
Through	120	10	120	100
Right	10	150	10	20
Total	240	200	240	130

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**370**	**240**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

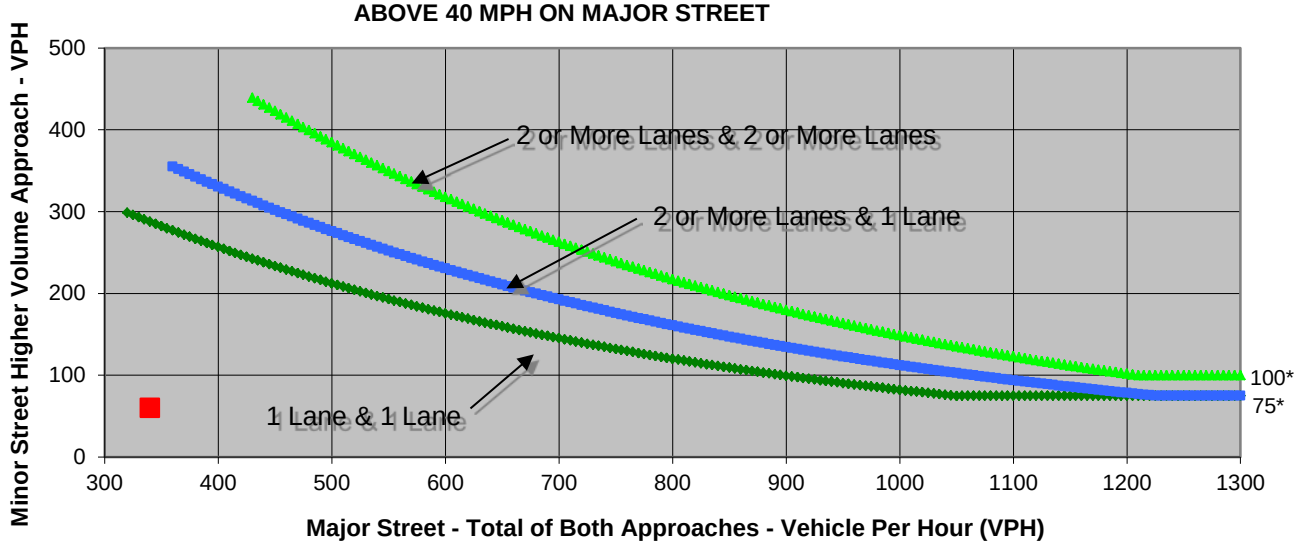
	NB	SB	EB	WB
Left	10	40	110	10
Through	10	10	50	120
Right	10	10	10	40
Total	30	60	170	170

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**340**	**60**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

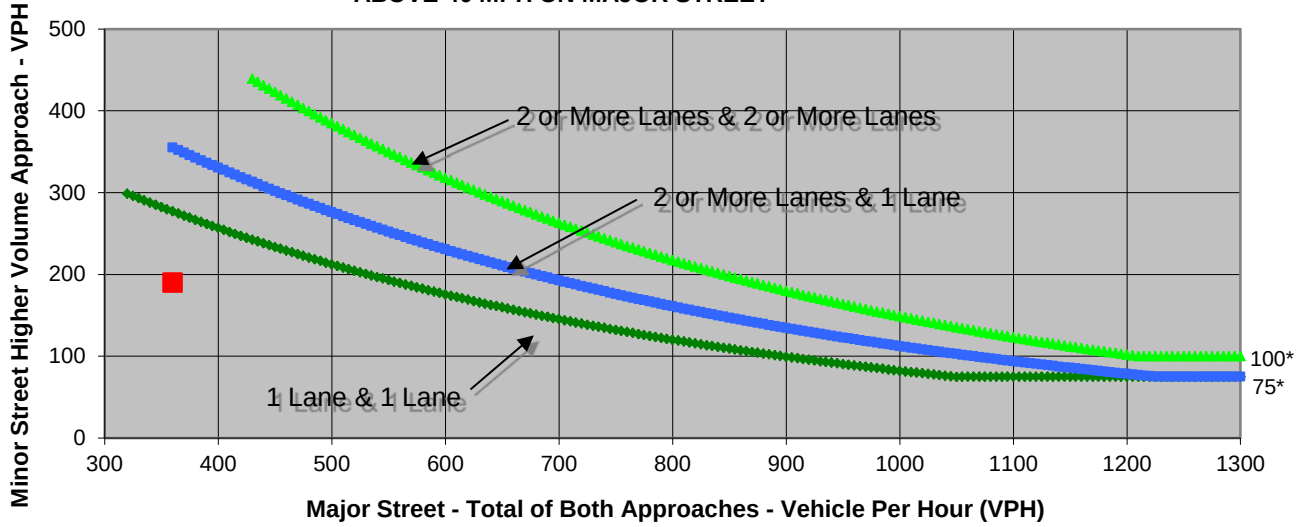
	NB	SB	EB	WB
Left	10	40	100	10
Through	10	10	120	100
Right	10	140	10	20
Total	30	190	230	130

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**360**	**190**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

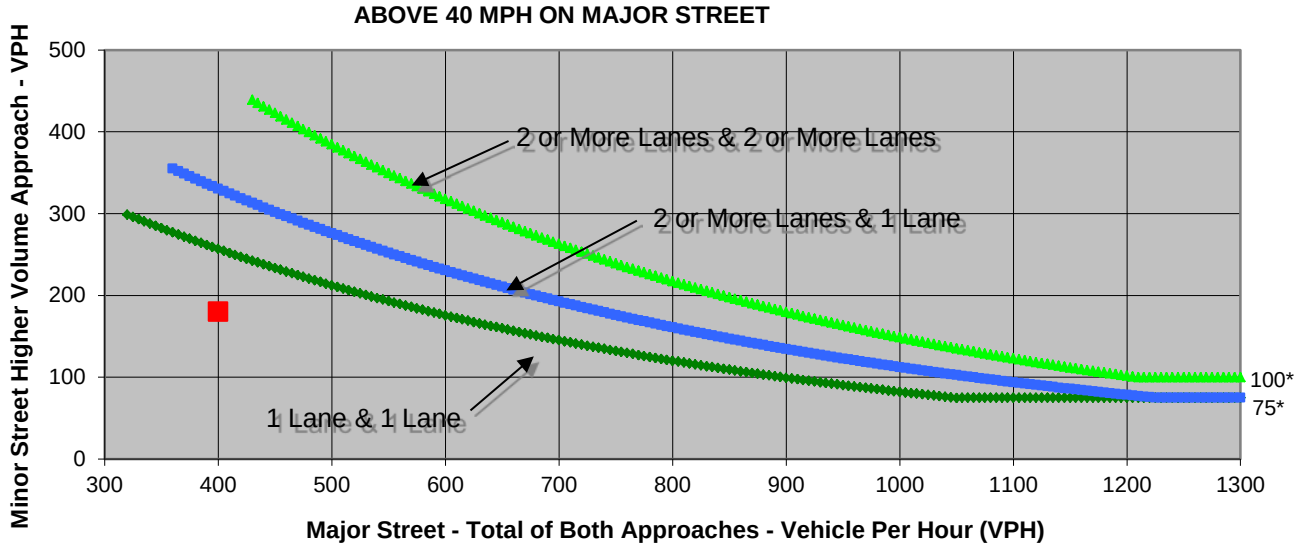
	NB	SB	EB	WB
Left	0	60	70	0
Through	0	0	130	160
Right	0	120	0	40
Total	0	180	200	200

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**400**	**180**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

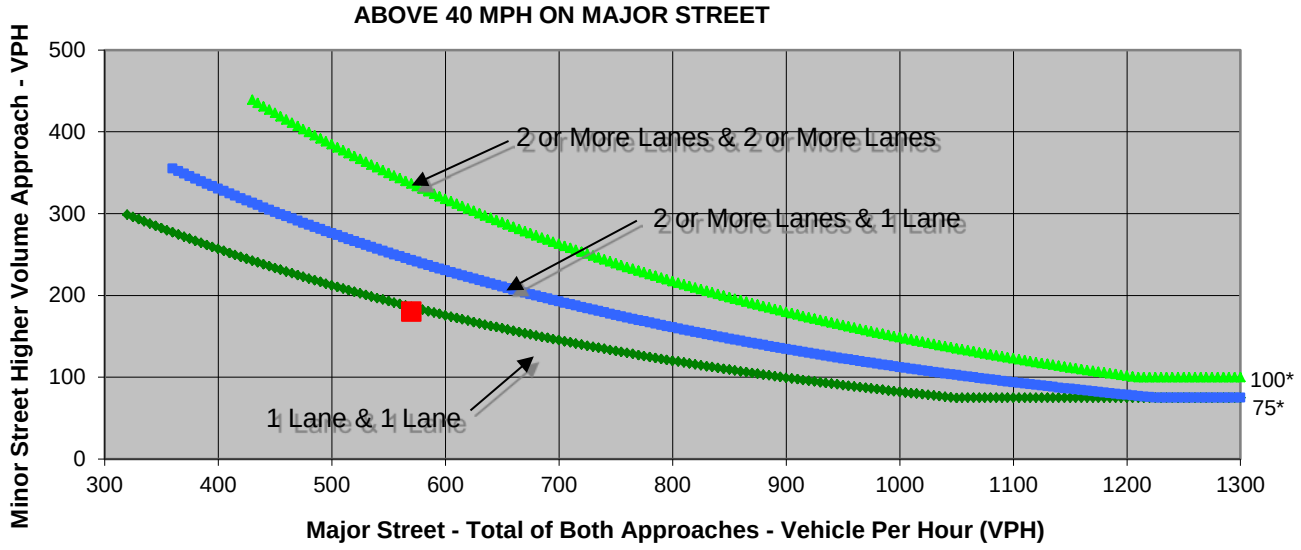
	NB	SB	EB	WB
Left	0	60	190	0
Through	0	0	170	160
Right	0	120	0	50
Total	0	180	360	210

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**570**	**180**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

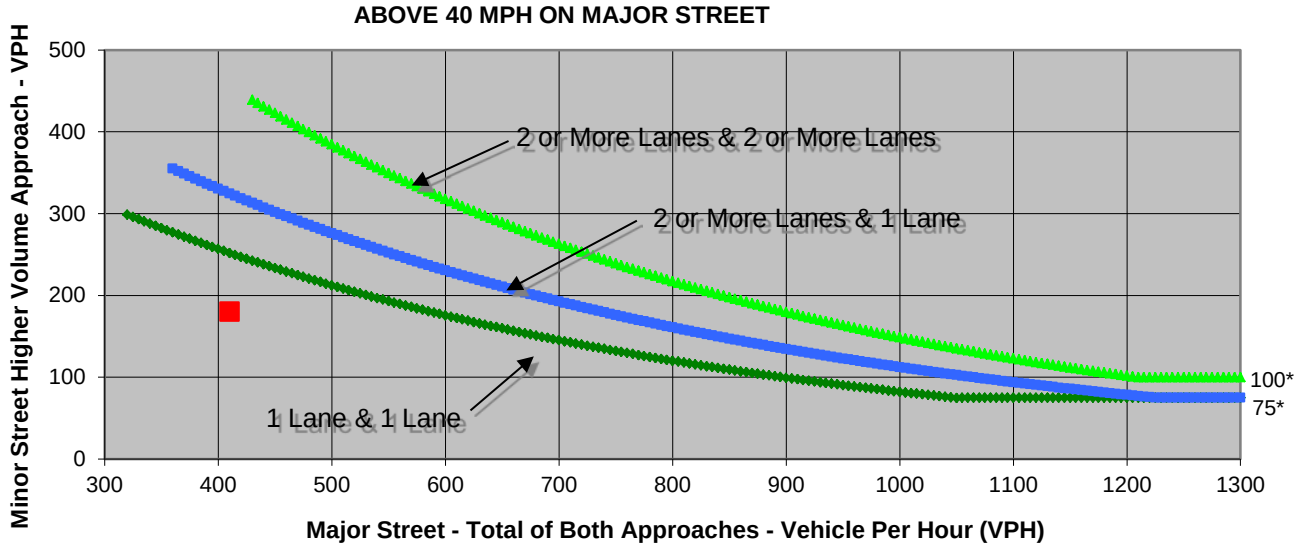
	NB	SB	EB	WB
Left	0	60	70	0
Through	0	0	130	170
Right	0	120	0	40
Total	0	180	200	210

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**410**	**180**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

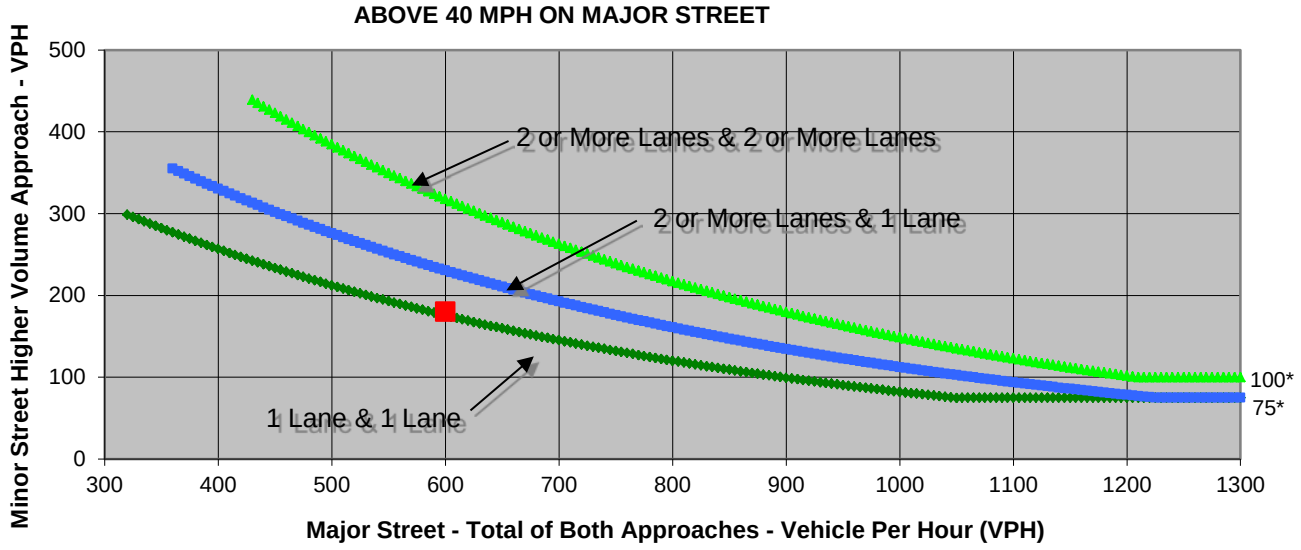
	NB	SB	EB	WB
Left	0	60	190	0
Through	0	0	200	160
Right	0	120	0	50
Total	0	180	390	210

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**600**	**180**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 No Project
Peak Hour	AM

Major Street	Claribel Road
Minor Street	Roselle Avenue

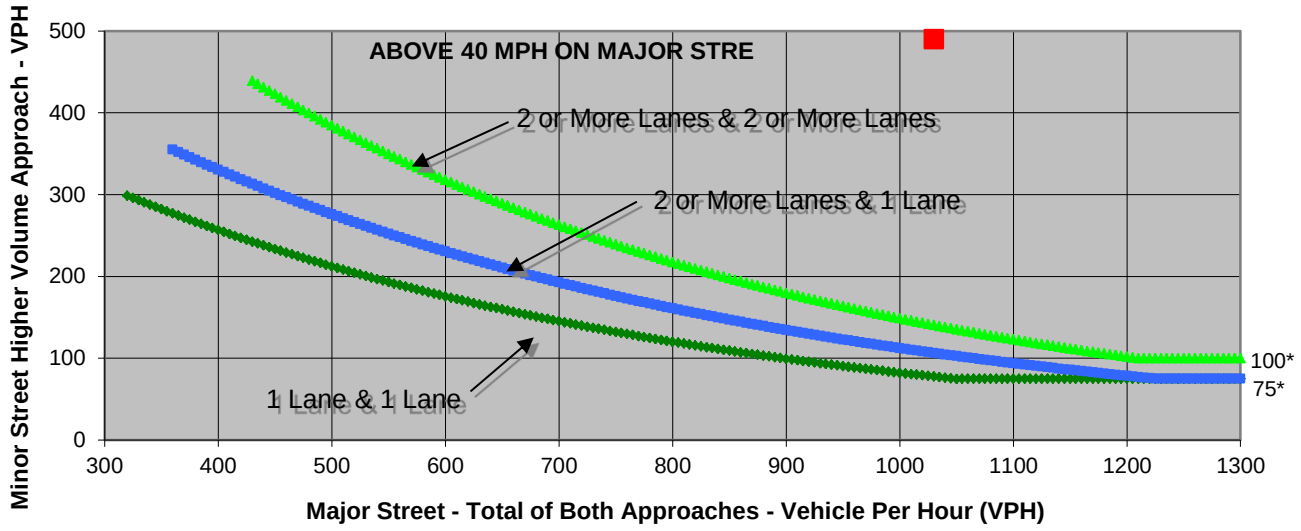
Turn Movement Volumes

	NB	SB	EB	WB
Left	110	60	30	150
Through	270	340	260	380
Right	110	50	150	60
Total	490	450	440	590

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Roselle Avenue	
Number of Approach Lanes	**2**	**3**	**YES**
Traffic Volume (VPH) *	**1,030**	**490**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 No Project
Peak Hour	PM

Major Street	Claribel Road
Minor Street	Roselle Avenue

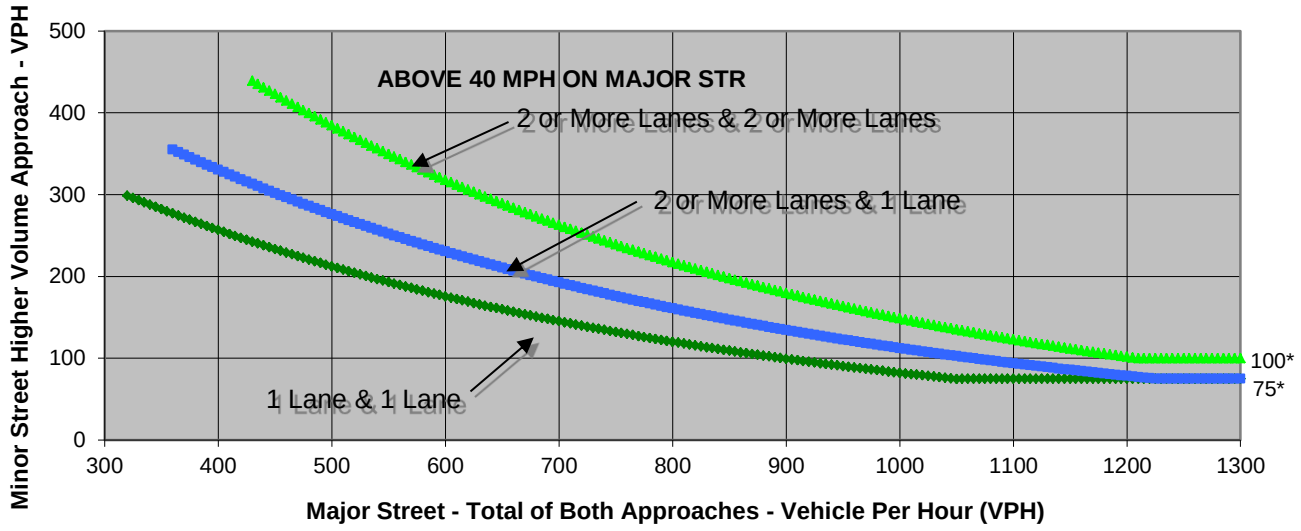
Turn Movement Volumes

	NB	SB	EB	WB
Left	190	50	70	130
Through	370	270	370	360
Right	160	60	170	70
Total	720	380	610	560

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Roselle Avenue	
Number of Approach Lanes	**2**	**3**	**YES**
Traffic Volume (VPH) *	**1,170**	**720**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

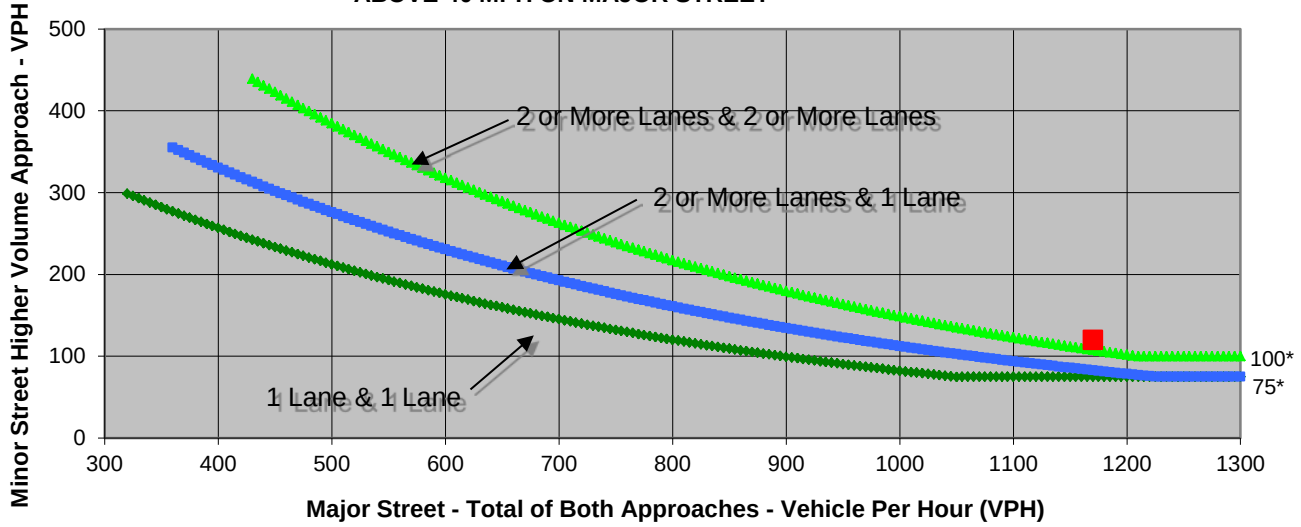
	NB	SB	EB	WB
Left	0	20		20
Through	500	640		0
Right	10	0		100
Total	510	660	0	120

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Frontage Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,170**	**120**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

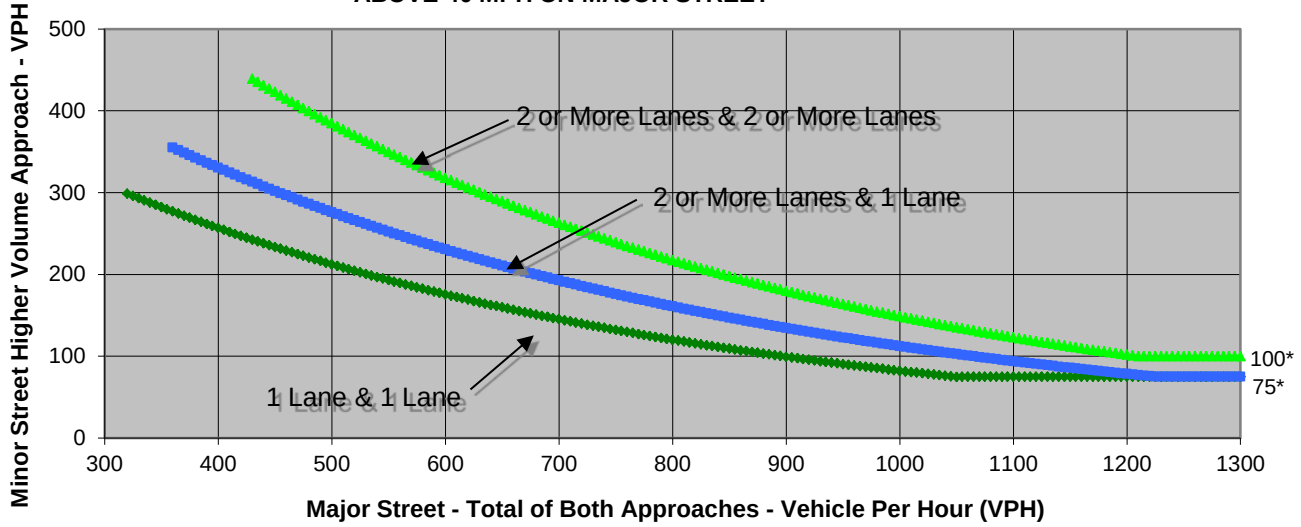
	NB	SB	EB	WB
Left	0	40		40
Through	690	640		0
Right	40	0		40
Total	730	680	0	80

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Frontage Road	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**1,410**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

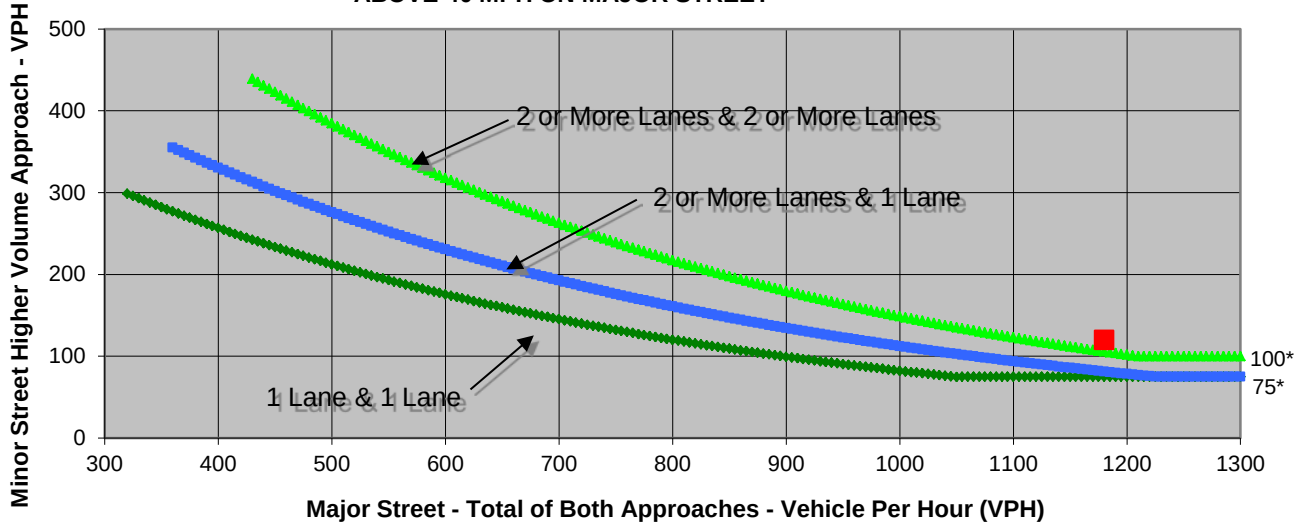
	NB	SB	EB	WB
Left	0	20		20
Through	500	640		0
Right	20	0		100
Total	520	660	0	120

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Frontage Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,180**	**120**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

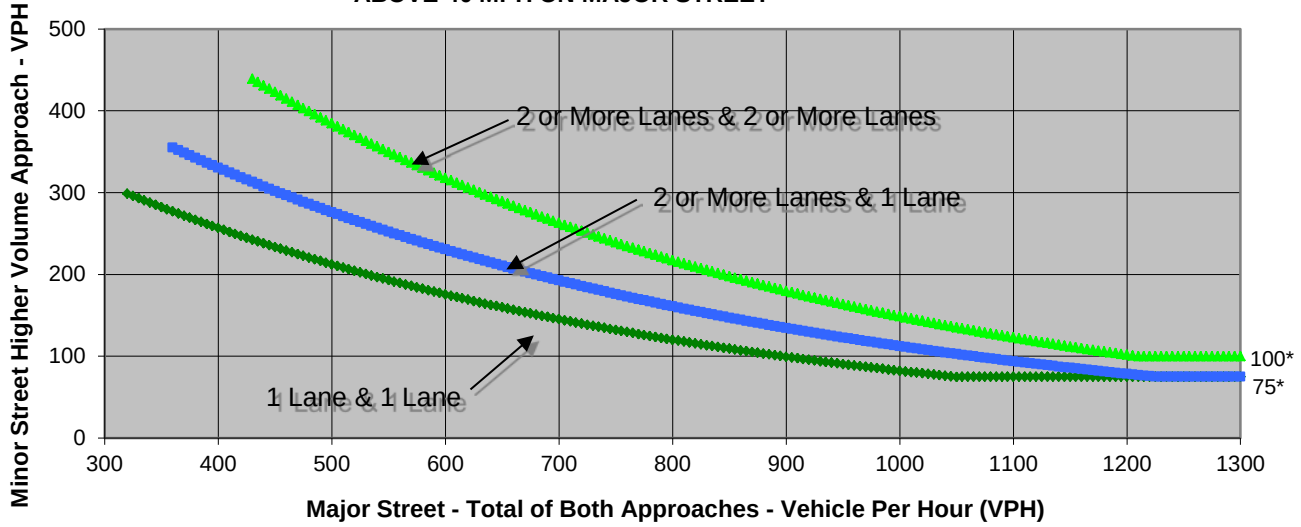
	NB	SB	EB	WB
Left	0	40		40
Through	690	640		0
Right	40	0		40
Total	730	680	0	80

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Frontage Road	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**1,410**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

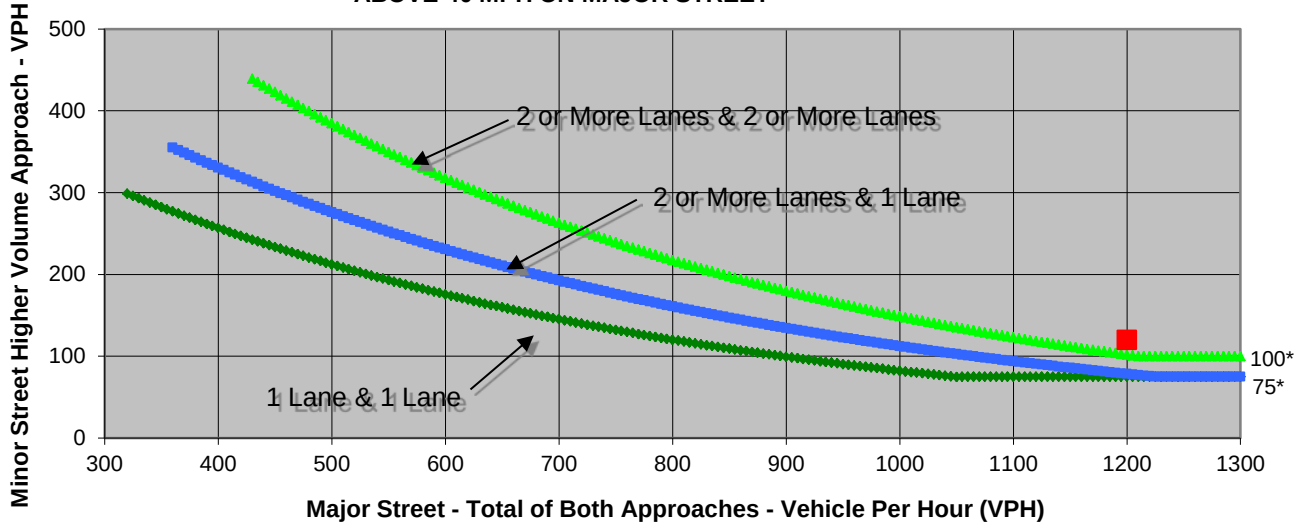
	NB	SB	EB	WB
Left	0	20	0	20
Through	500	660	0	0
Right	20	0	0	100
Total	520	680	0	120

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Frontage Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,200**	**120**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

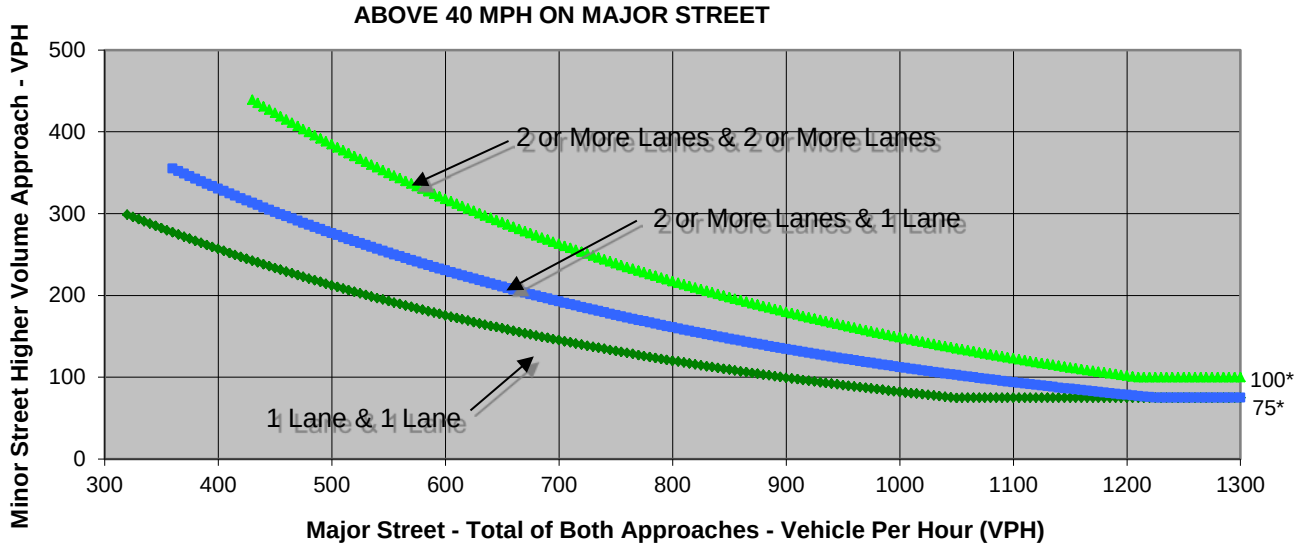
	NB	SB	EB	WB
Left	0	40	0	40
Through	690	680	0	0
Right	40	0	0	40
Total	730	720	0	80

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Frontage Road	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**1,450**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

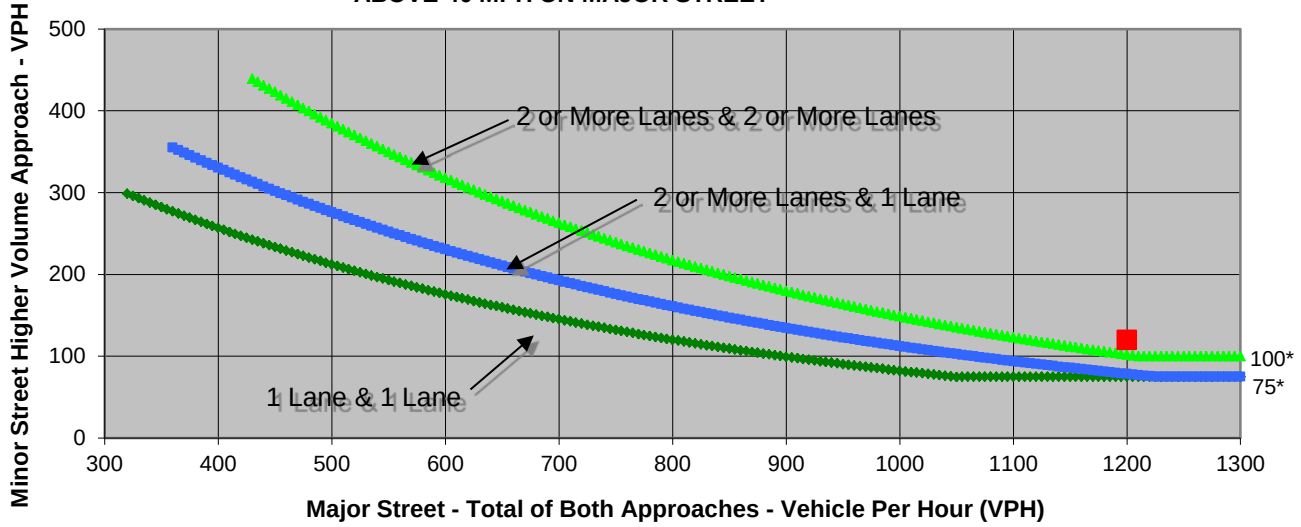
	NB	SB	EB	WB
Left	0	20	0	20
Through	500	660	0	0
Right	20	0	0	100
Total	520	680	0	120

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Frontage Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,200**	**120**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

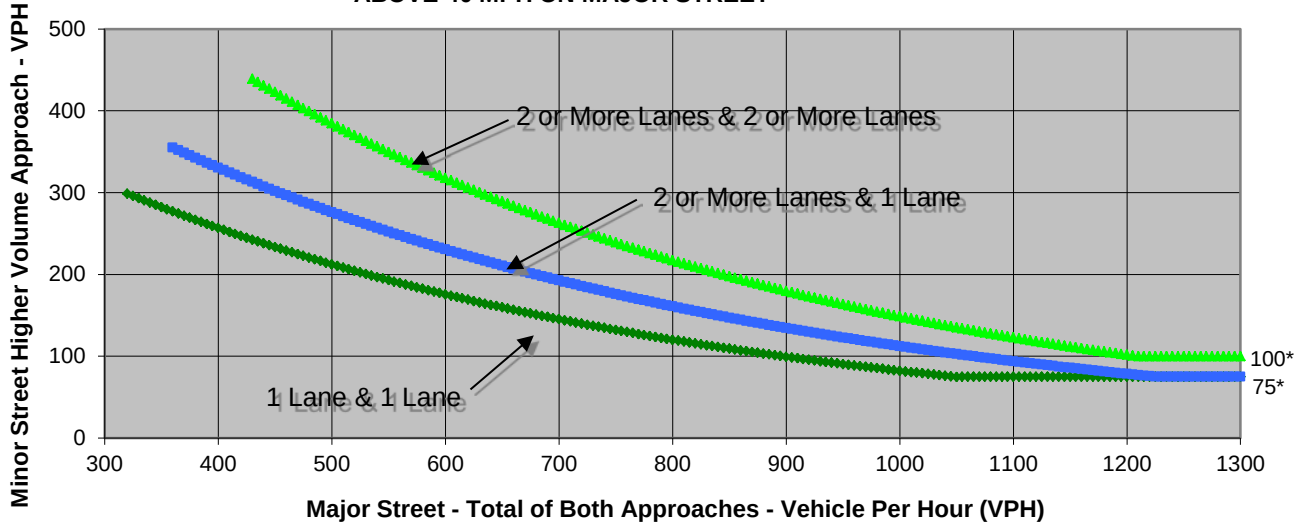
	NB	SB	EB	WB
Left	0	40	0	40
Through	690	680	0	0
Right	40	0	0	40
Total	730	720	0	80

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Frontage Road	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**1,450**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	NCC
Minor Street	Smith Road

Turn Movement Volumes

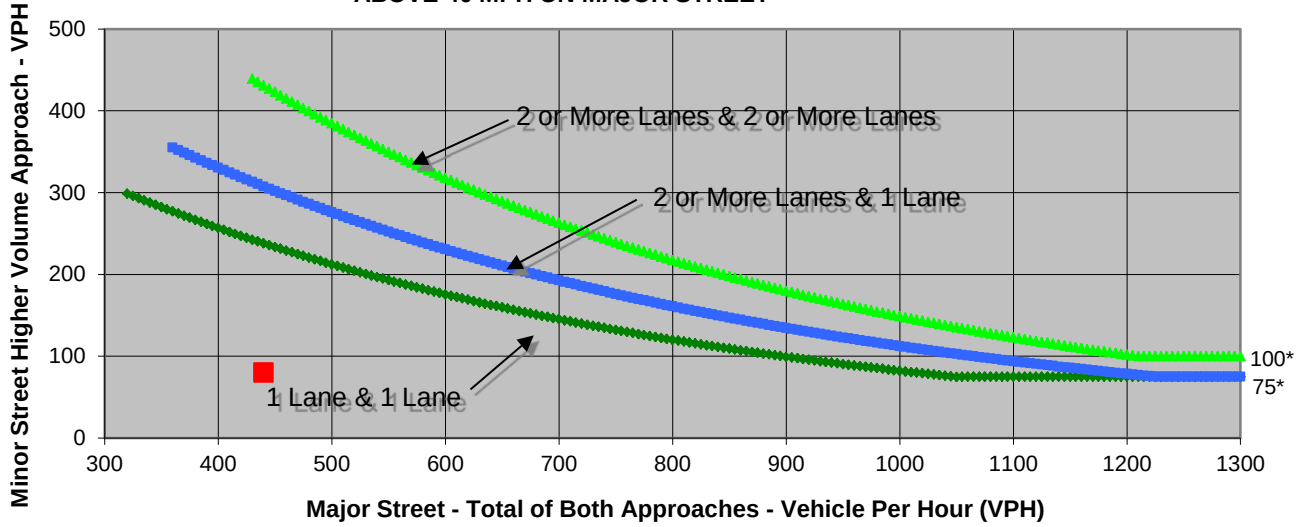
	NB	SB	EB	WB
Left	10	10	70	10
Through	10	10	150	190
Right	10	60	10	10
Total	30	80	230	210

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Smith Road	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**440**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	NCC
Minor Street	Smith Road

Turn Movement Volumes

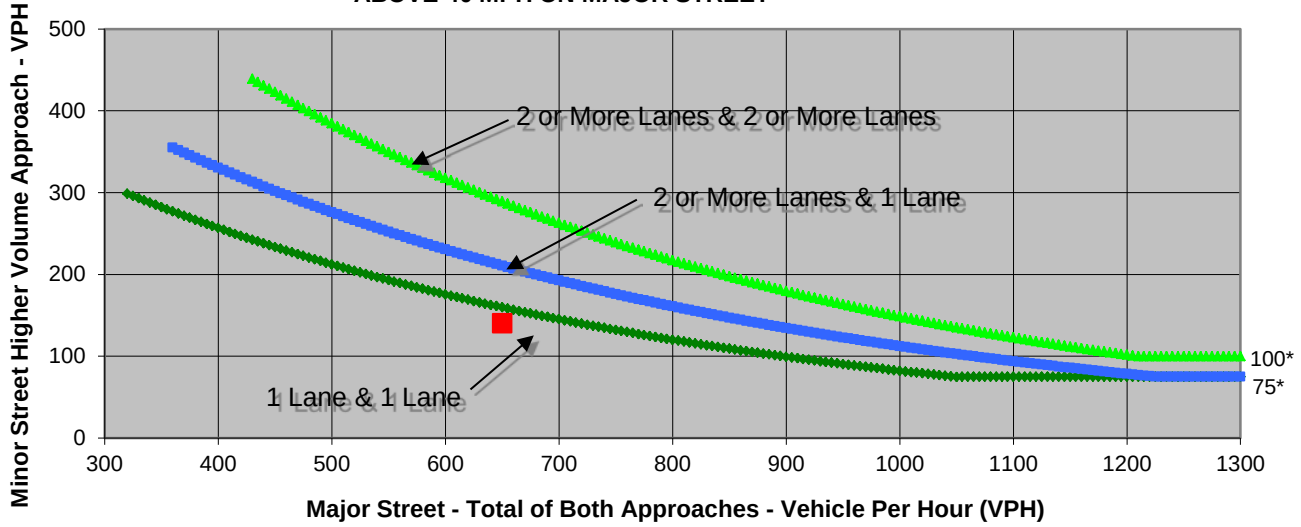
	NB	SB	EB	WB
Left	10	10	120	10
Through	10	30	280	220
Right	10	100	10	10
Total	30	140	410	240

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Smith Road	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**650**	**140**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	NCC SPUI
Minor Street	Oakdale Road

Turn Movement Volumes

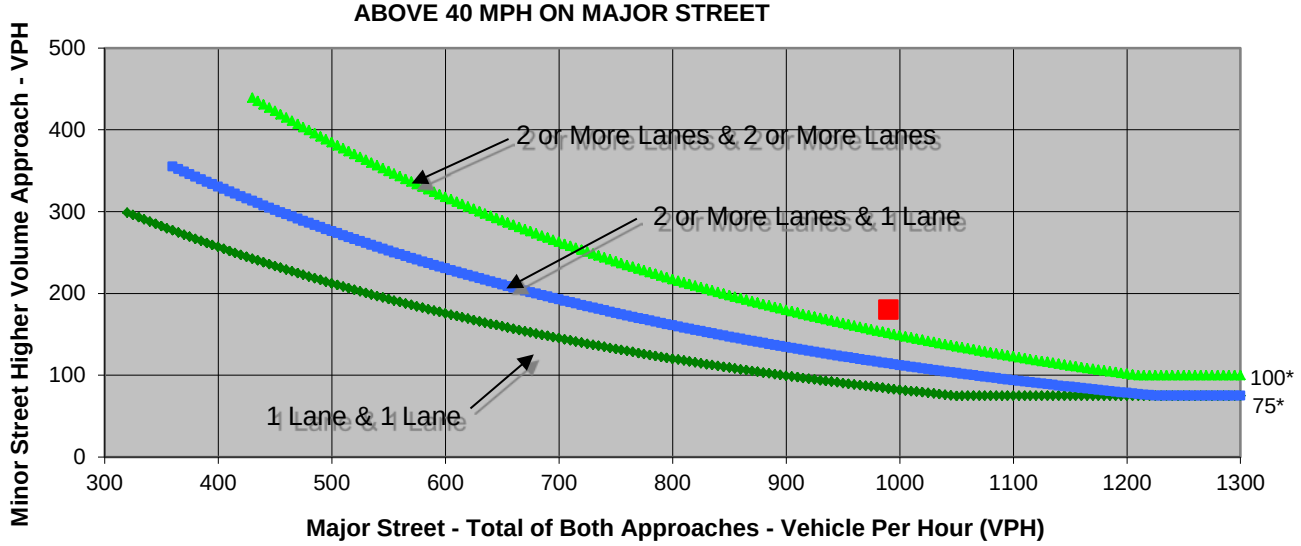
	NB	SB	EB	WB
Left	30	30	50	180
Through	390	540		
Right				
Total	420	570	50	180

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC SPUI	Oakdale Road	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**990**	**180**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Oakdale
Minor Street	NCC SPUI

Turn Movement Volumes

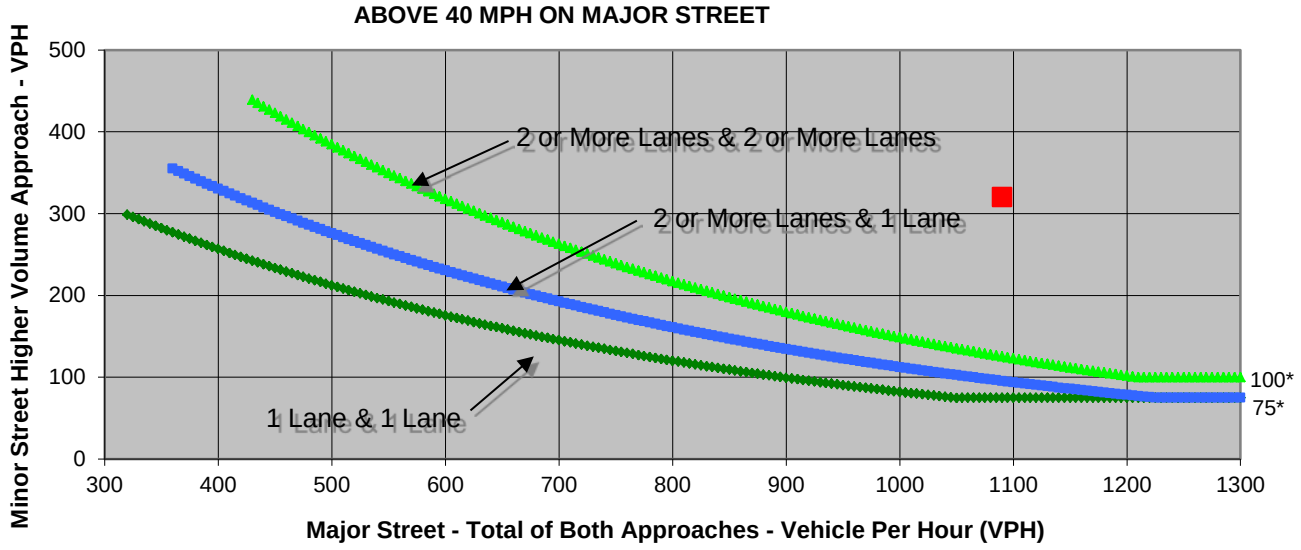
	NB	SB	EB	WB
Left	10	50	320	220
Through	440	590		
Right				
Total	450	640	320	220

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,090**	**320**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	NCC SPUI

Turn Movement Volumes

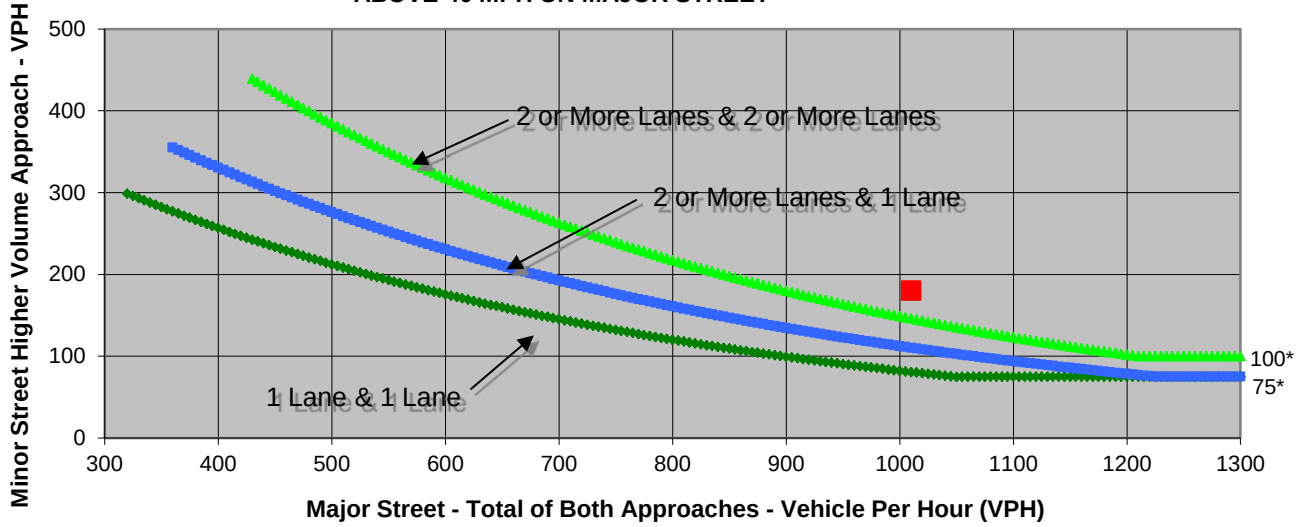
	NB	SB	EB	WB
Left	30	30	50	180
Through	400	550		
Right				
Total	430	580	50	180

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,010**	**180**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Oakdale Road
Minor Street	NCC SPUI

Turn Movement Volumes

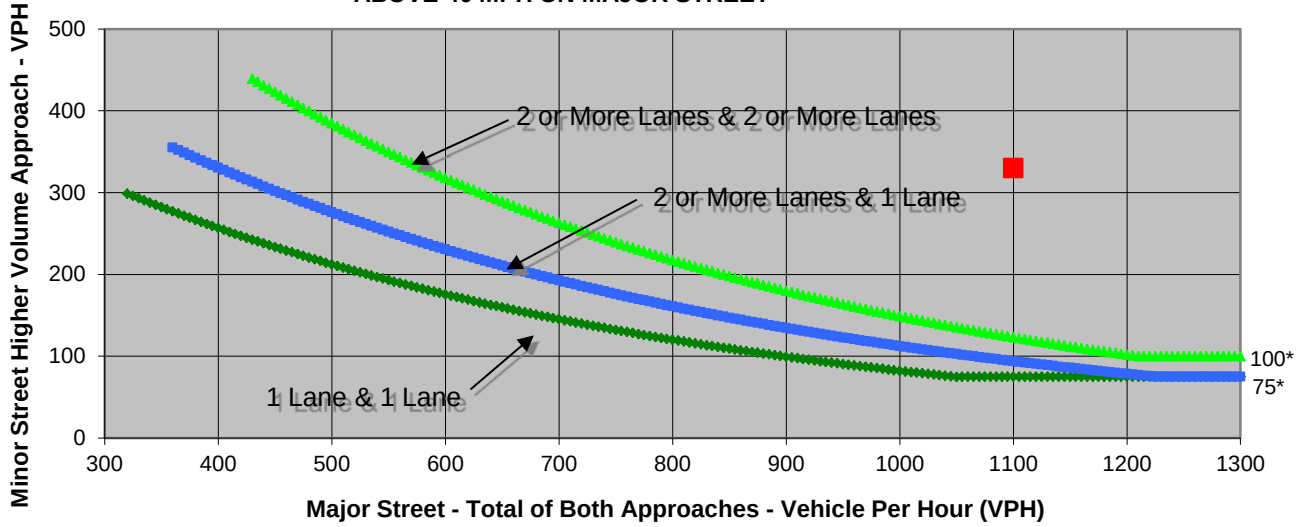
	NB	SB	EB	WB
Left	10	50	330	220
Through	450	590		
Right				
Total	460	640	330	220

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,100**	**330**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	NCC SPUI

Turn Movement Volumes

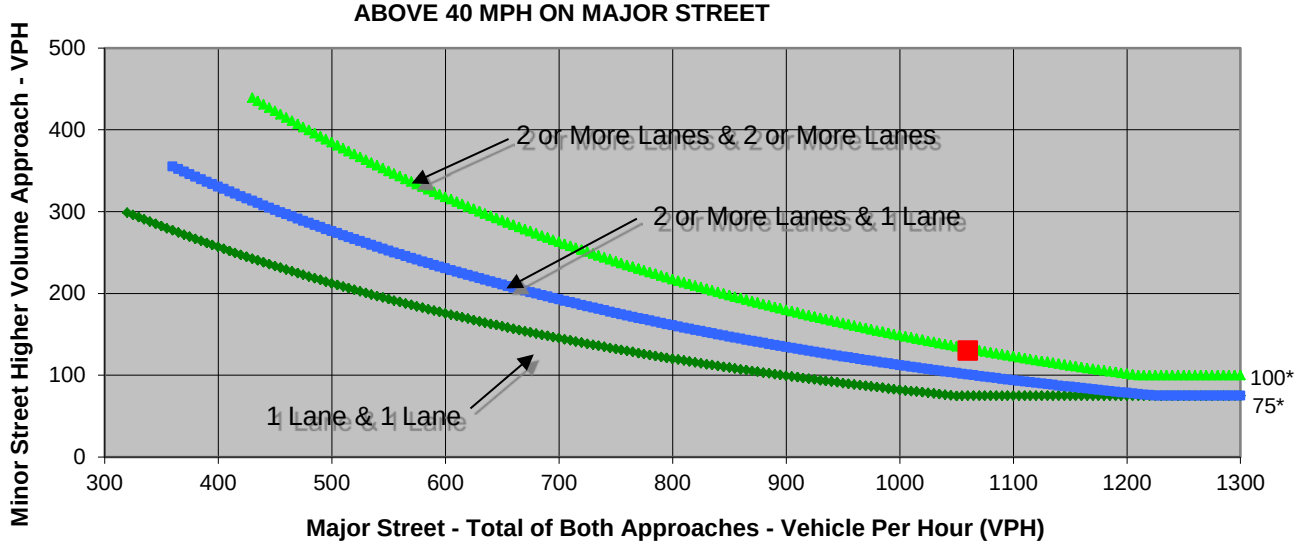
	NB	SB	EB	WB
Left	30	30	50	130
Through	410	590	0	0
Right	0	0	0	0
Total	440	620	50	130

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,060**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	Oakdale Road
Minor Street	NCC SPUI

Turn Movement Volumes

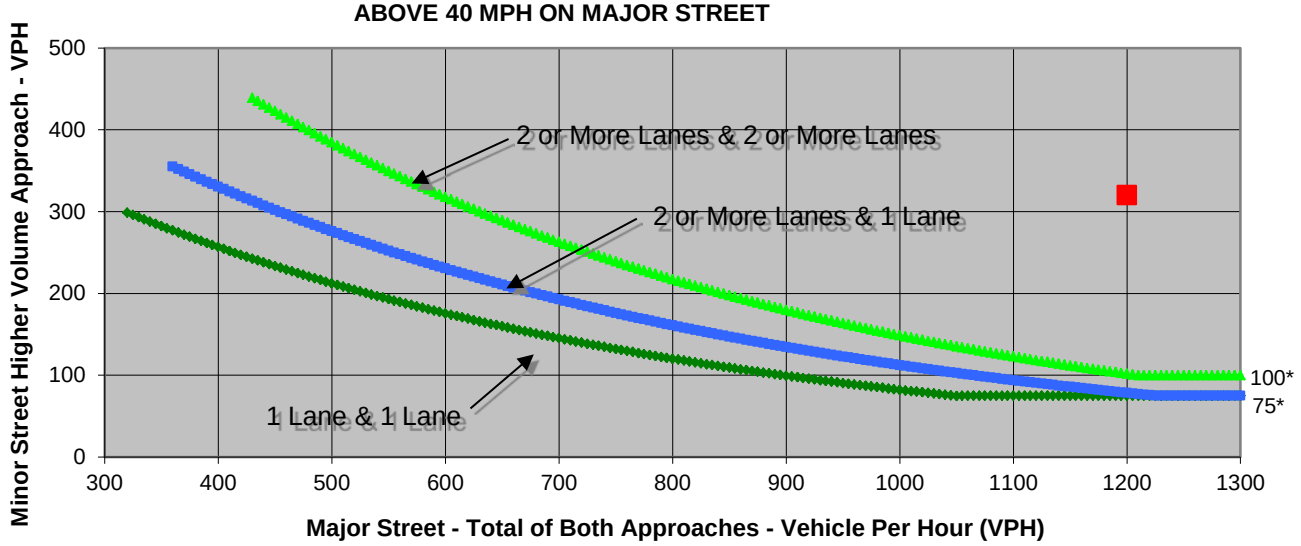
	NB	SB	EB	WB
Left	10	50	320	180
Through	520	620	0	0
Right	0	0	0	0
Total	530	670	320	180

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,200**	**320**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	NCC SPUI

Turn Movement Volumes

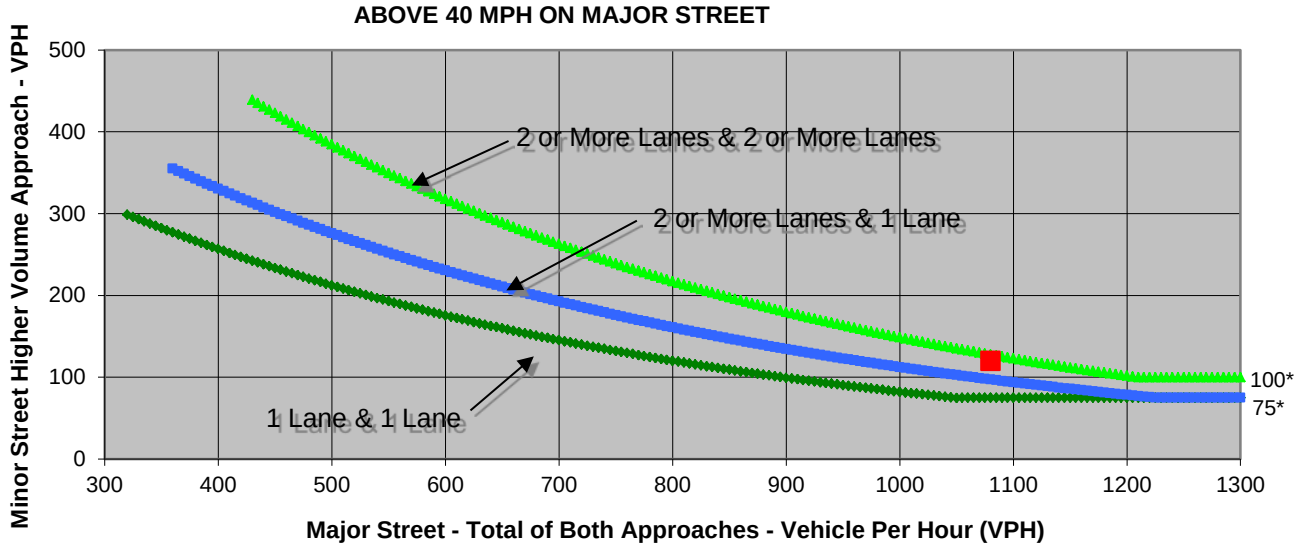
	NB	SB	EB	WB
Left	30	30	60	120
Through	420	600	0	0
Right	0	0	0	0
Total	450	630	60	120

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**1,080**	**120**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	Oakdale Road
Minor Street	NCC SPUI

Turn Movement Volumes

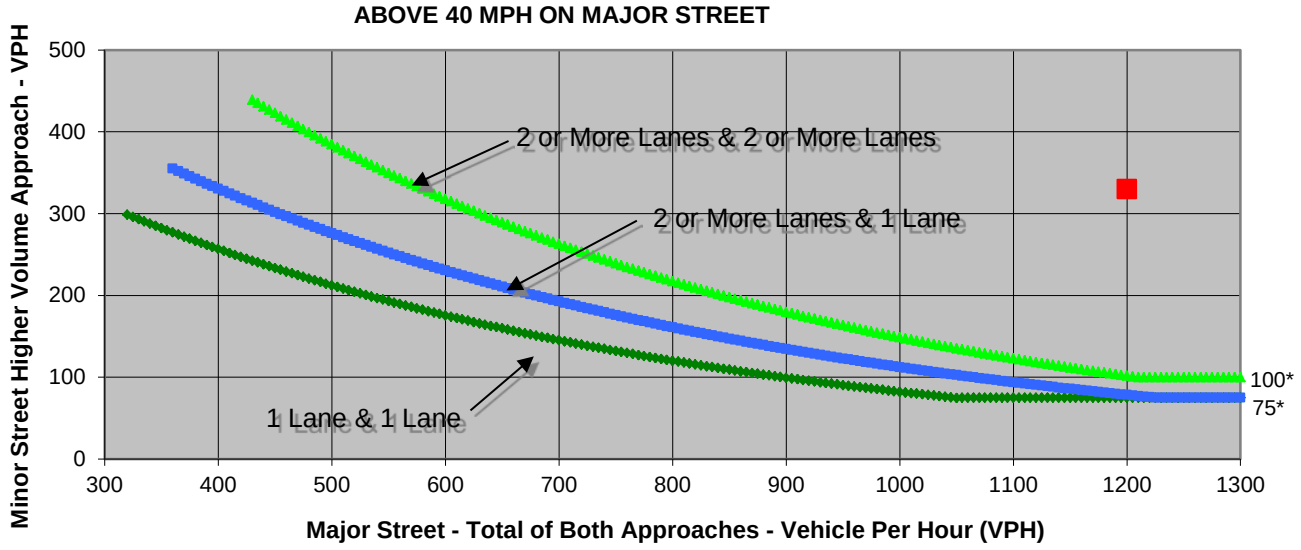
	NB	SB	EB	WB
Left	10	40	330	180
Through	520	630	0	0
Right	0	0	0	0
Total	530	670	330	180

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,200**	**330**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	NCC SPUI
Minor Street	Roselle

Turn Movement Volumes

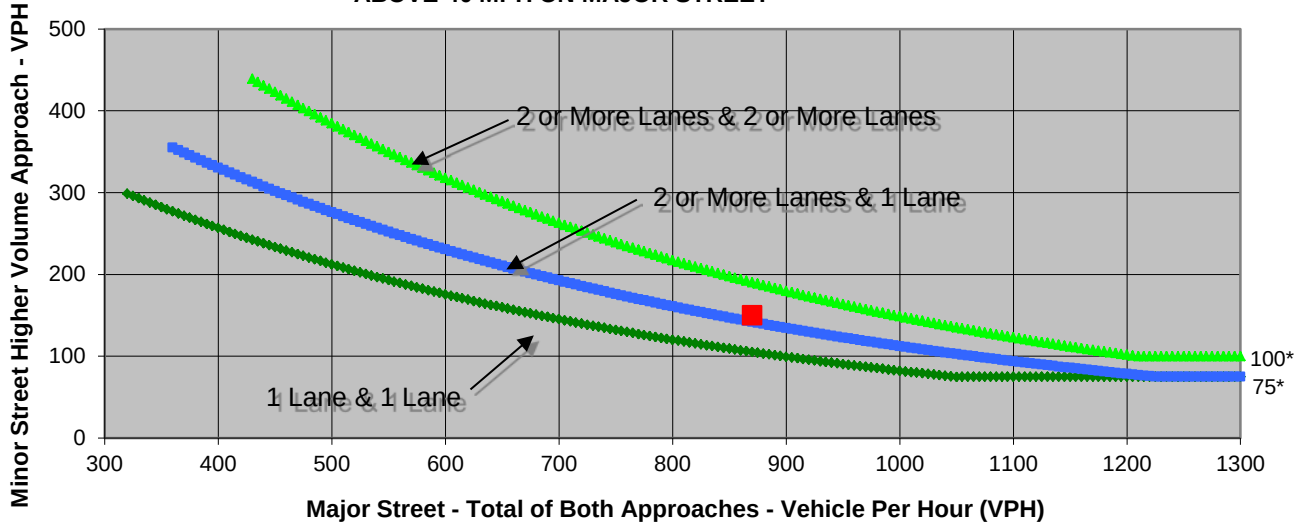
	NB	SB	EB	WB
Left	150	40	10	150
Through	260	420		
Right				
Total	410	460	10	150

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC SPUI	Roselle	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**870**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Roselle
Minor Street	NCC SPUI

Turn Movement Volumes

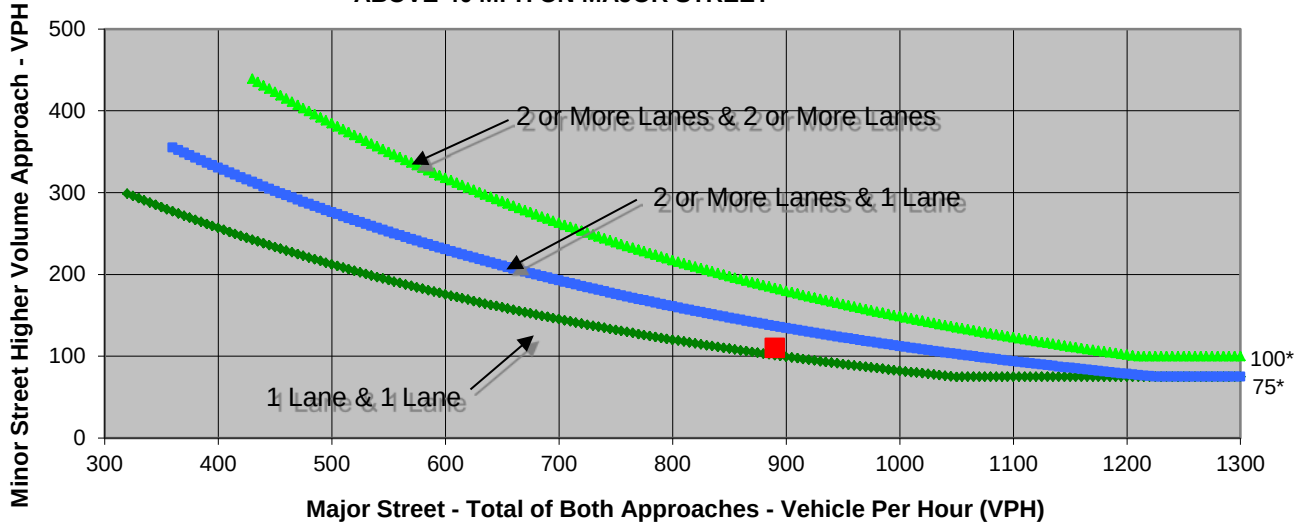
	NB	SB	EB	WB
Left	120	50	50	110
Through	400	320		
Right				
Total	520	370	50	110

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle	NCC SPUI	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**890**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	NCC SPUI

Turn Movement Volumes

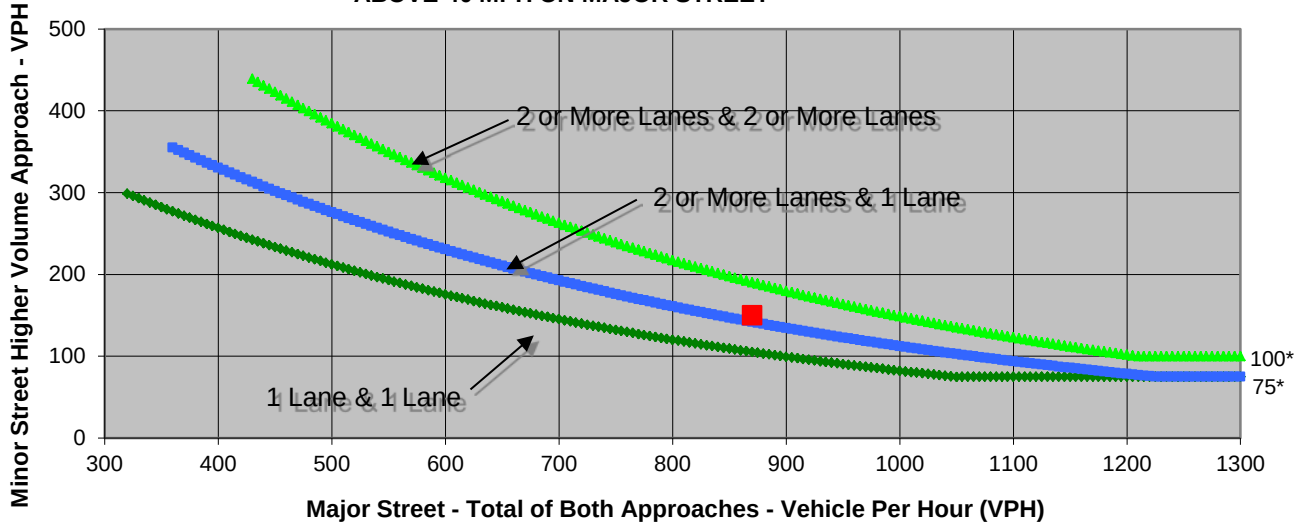
	NB	SB	EB	WB
Left	150	40	10	150
Through	260	420		
Right				
Total	410	460	10	150

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	NCC SPUI	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**870**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	NCC SPUI

Turn Movement Volumes

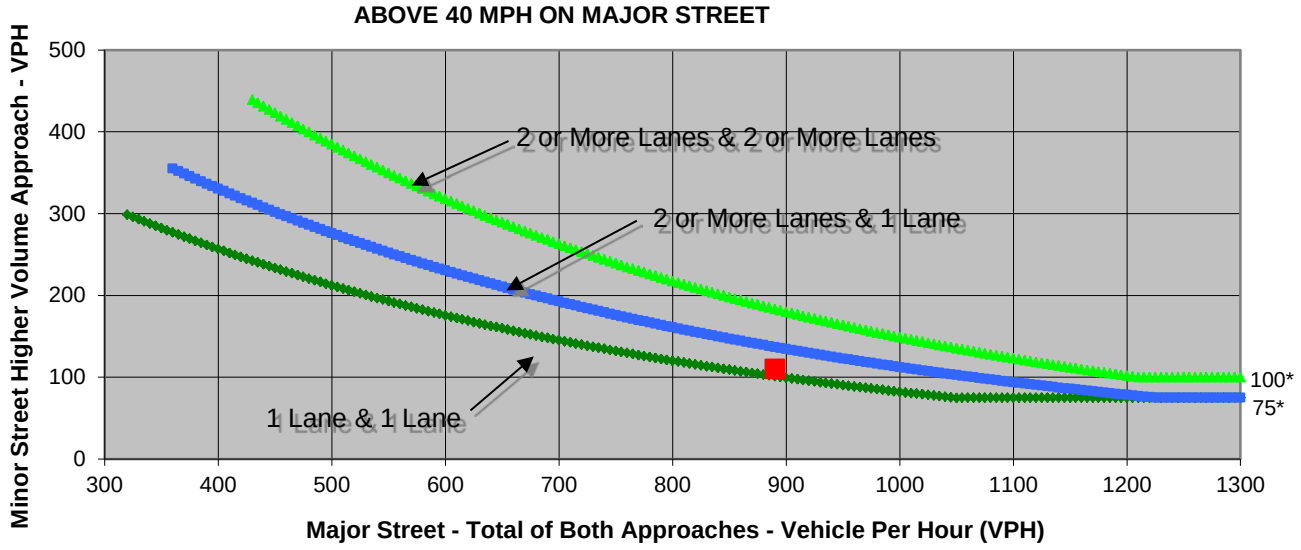
	NB	SB	EB	WB
Left	120	50	50	110
Through	400	320		
Right				
Total	520	370	50	110

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	NCC SPUI	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**890**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	NCC SPUI

Turn Movement Volumes

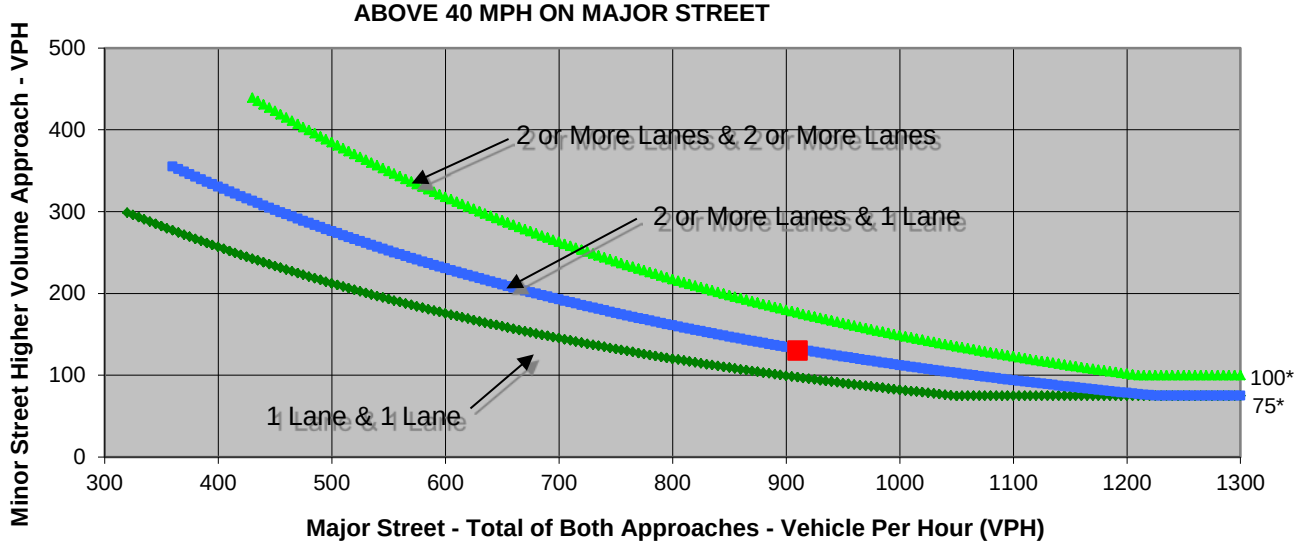
	NB	SB	EB	WB
Left	150	40	10	130
Through	260	460	0	0
Right	0	0	0	0
Total	410	500	10	130

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	NCC SPUI	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**910**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	NCC SPUI

Turn Movement Volumes

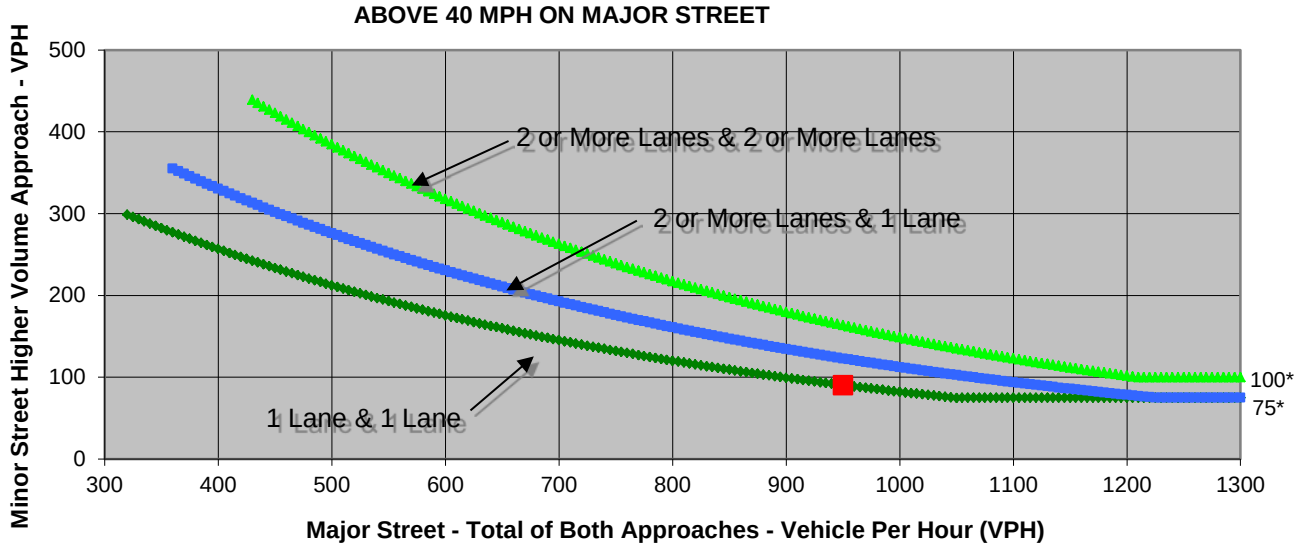
	NB	SB	EB	WB
Left	120	50	50	90
Through	400	380	0	0
Right	0	0	0	0
Total	520	430	50	90

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	NCC SPUI	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**950**	**90**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	NCC SPUI

Turn Movement Volumes

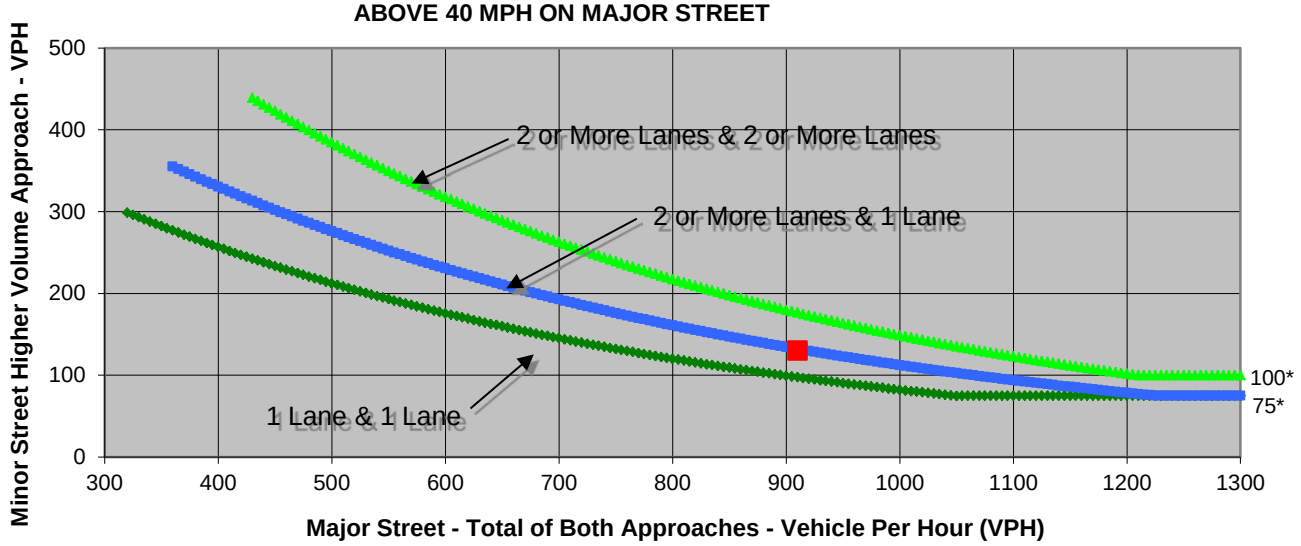
	NB	SB	EB	WB
Left	150	40	10	130
Through	260	460	0	0
Right	0	0	0	0
Total	410	500	10	130

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	NCC SPUI	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**910**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	NCC SPUI

Turn Movement Volumes

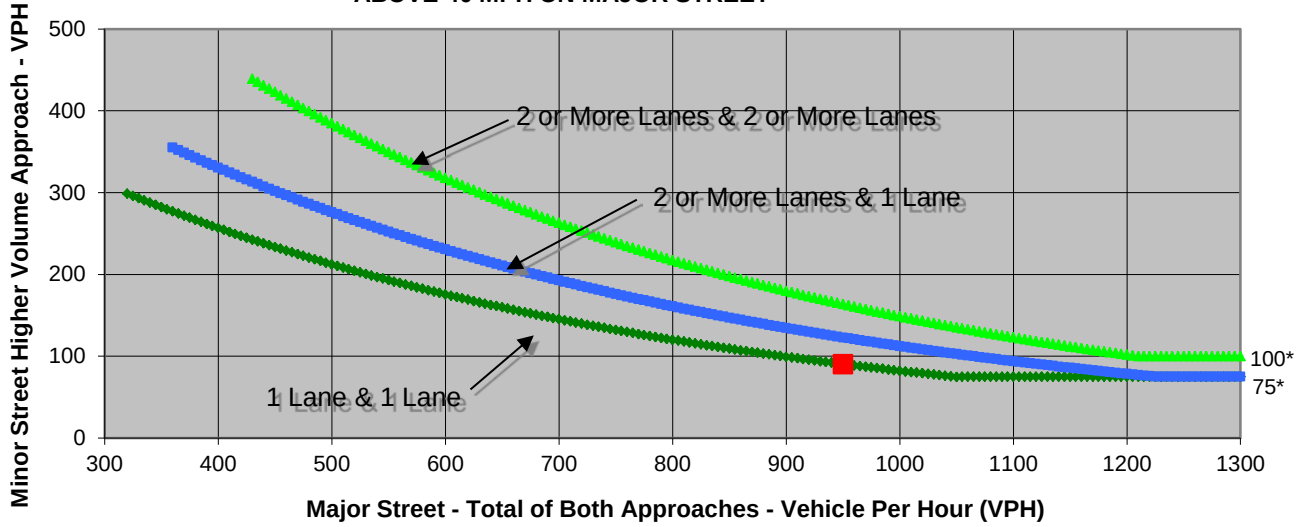
	NB	SB	EB	WB
Left	120	50	50	90
Through	400	380	0	0
Right	0	0	0	0
Total	520	430	50	90

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	NCC SPUI	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**950**	**90**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 No Project
Peak Hour	AM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

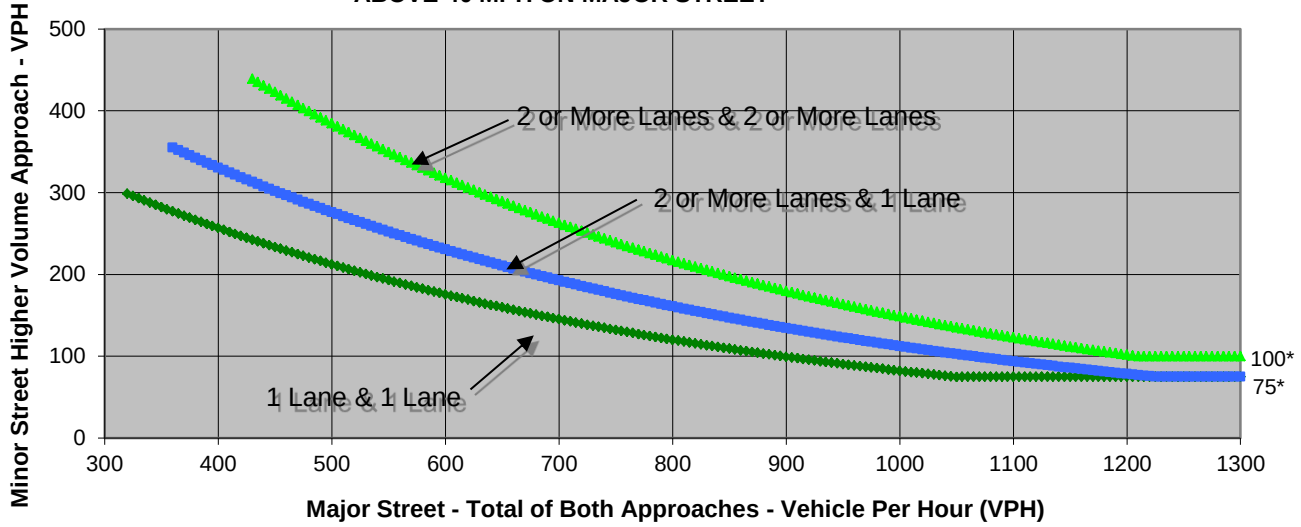
	NB	SB	EB	WB
Left	100	0	0	240
Through	0	0	420	620
Right	180	0	140	0
Total	280	0	560	860

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,420**	**280**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 No Project
Peak Hour	PM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

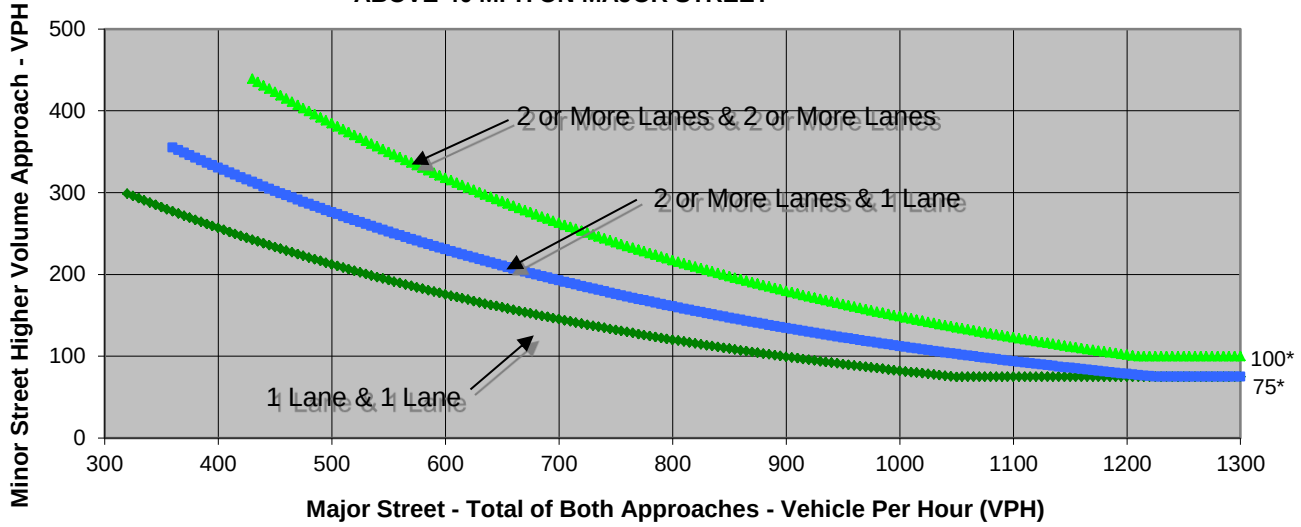
	NB	SB	EB	WB
Left	110	0	0	220
Through	0	0	610	450
Right	220	0	170	0
Total	330	0	780	670

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,450**	**330**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

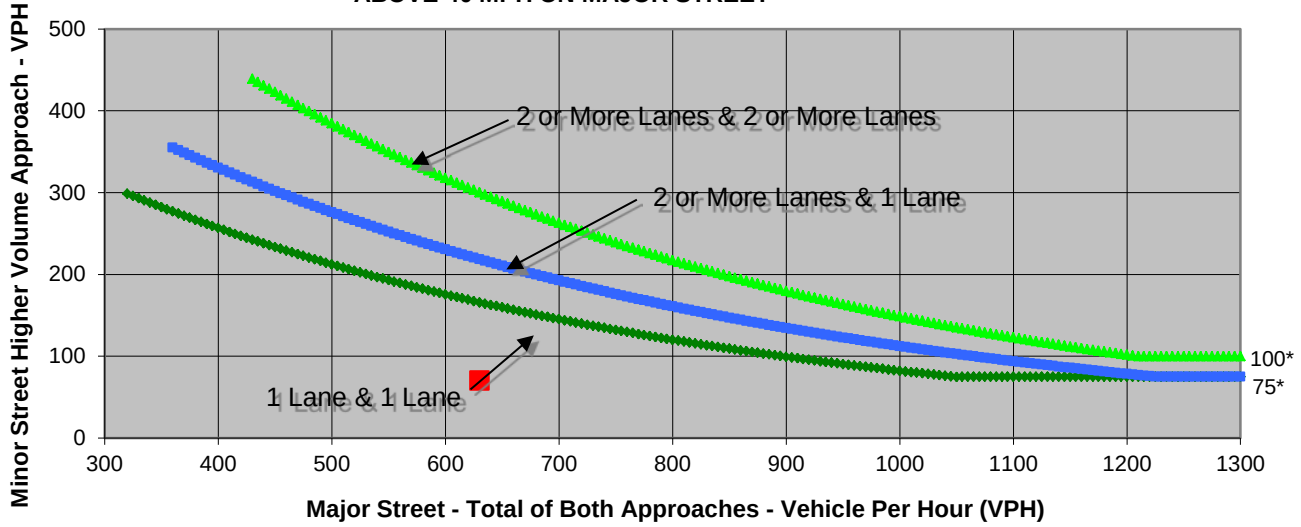
	NB	SB	EB	WB
Left	60			70
Through			100	340
Right	10		120	
Total	70	0	220	410

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**630**	**70**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

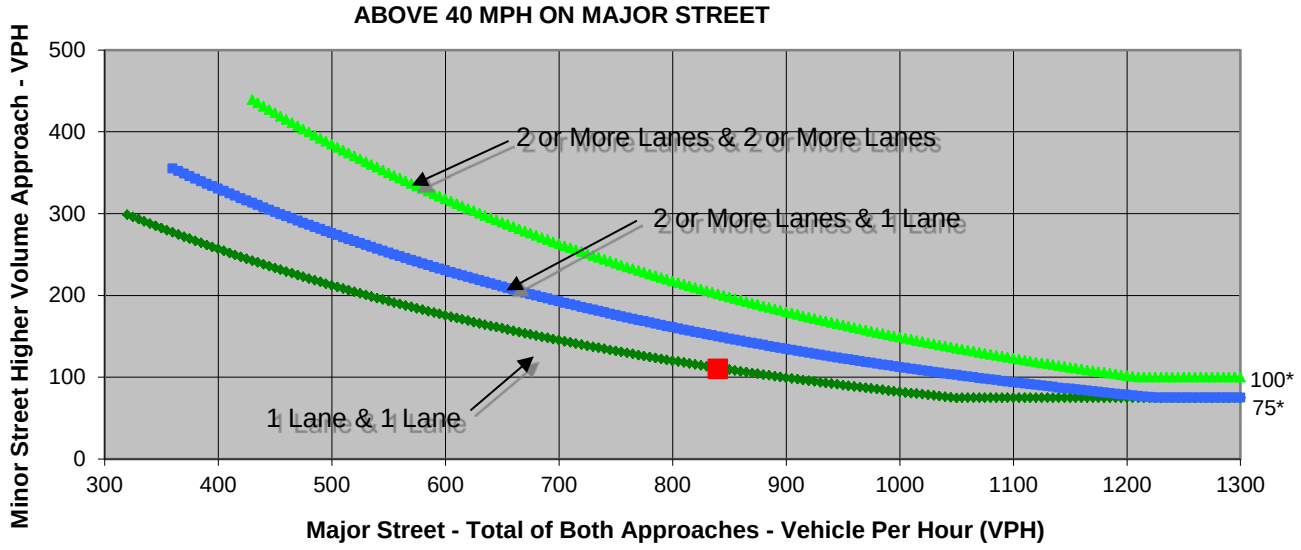
	NB	SB	EB	WB
Left	50		0	30
Through	0		450	190
Right	60		170	0
Total	110	0	620	220

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**840**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

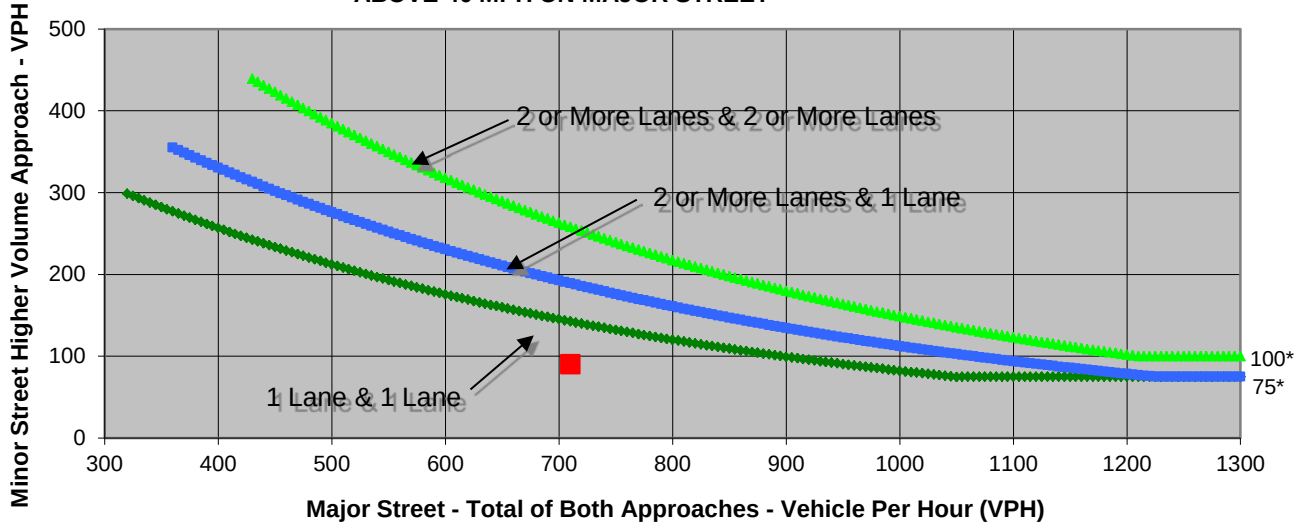
	NB	SB	EB	WB
Left	60		0	80
Through	0		120	390
Right	30		120	0
Total	90	0	240	470

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**710**	**90**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

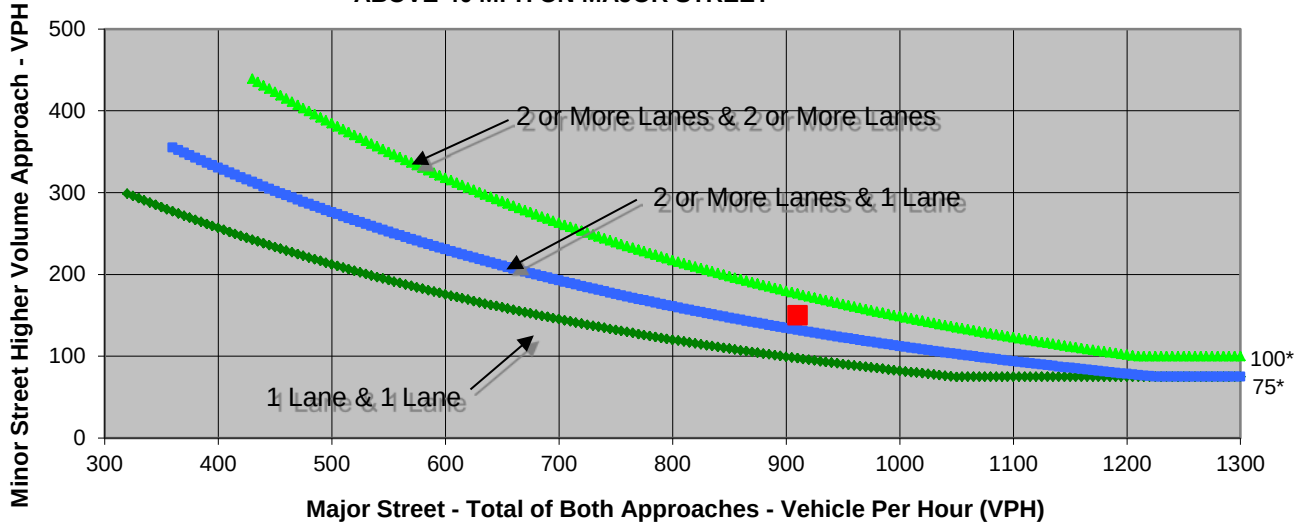
	NB	SB	EB	WB
Left	50		0	40
Through	0		490	210
Right	100		170	
Total	150	0	660	250

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**910**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

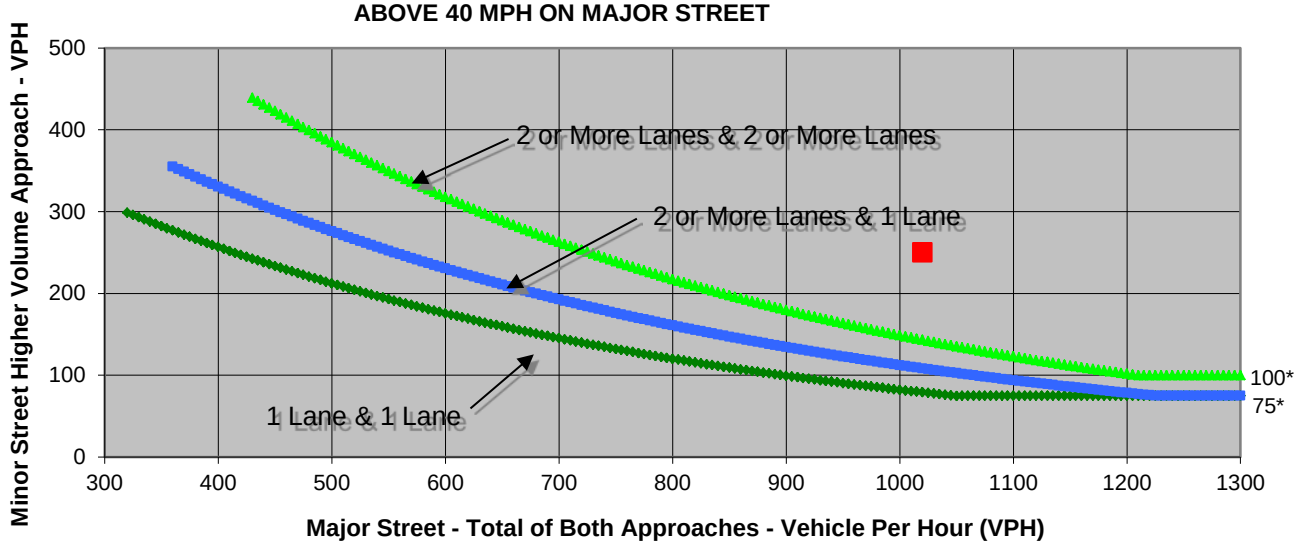
	NB	SB	EB	WB
Left	80	0	0	200
Through	0	0	230	450
Right	170	0	140	0
Total	250	0	370	650

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,020**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

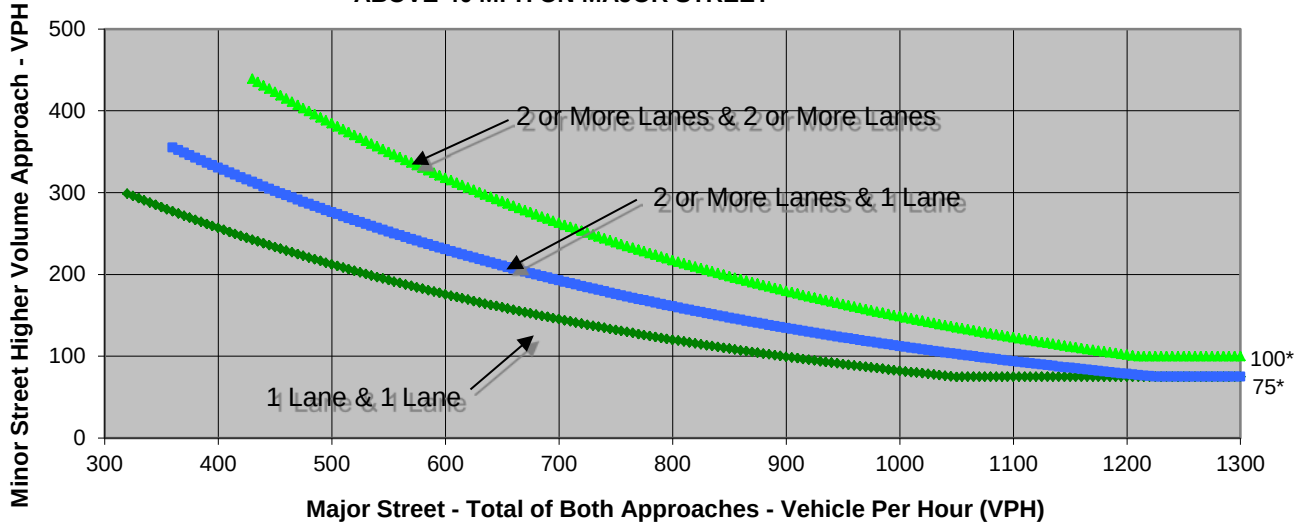
	NB	SB	EB	WB
Left	50	0	0	240
Through	0	0	560	350
Right	200	0	210	0
Total	250	0	770	590

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,360**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

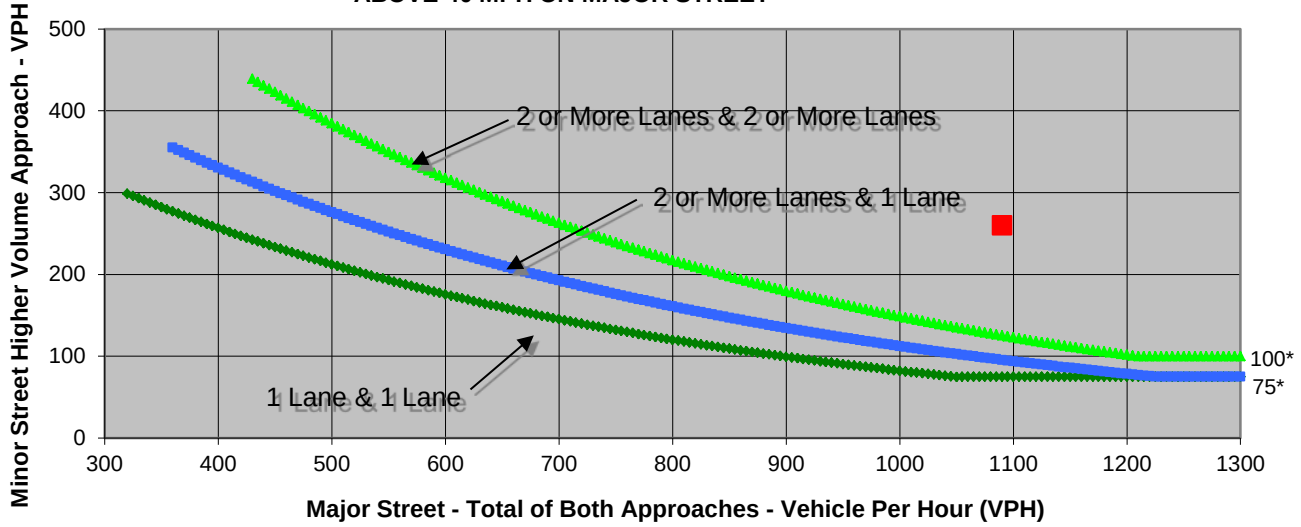
	NB	SB	EB	WB
Left	80	0	0	210
Through	0	0	250	490
Right	180	0	140	0
Total	260	0	390	700

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,090**	**260**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

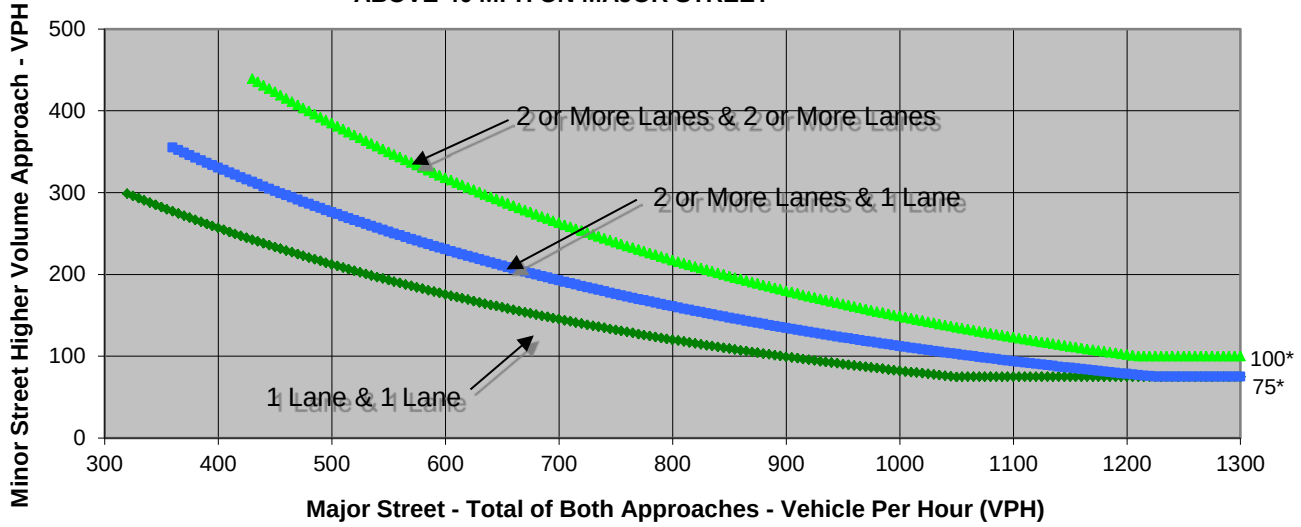
	NB	SB	EB	WB
Left	50	0	0	260
Through	0	0	590	370
Right	210	0	210	0
Total	260	0	800	630

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,430**	**260**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

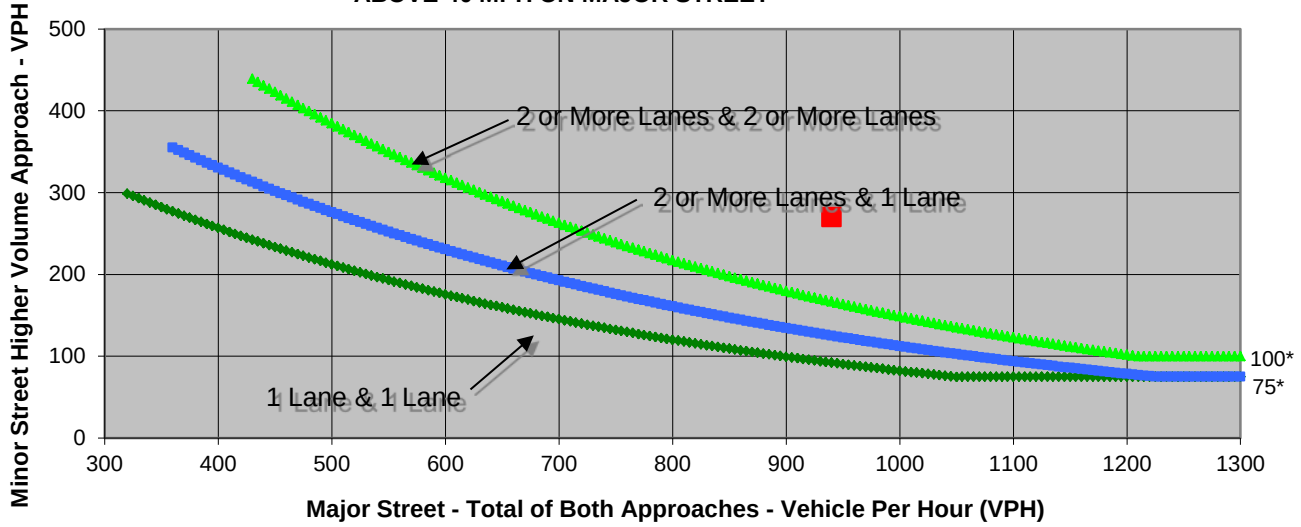
	NB	SB	EB	WB
Left	10	20	20	230
Through	10	20	220	430
Right	250	100	30	10
Total	270	140	270	670

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**940**	**270**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

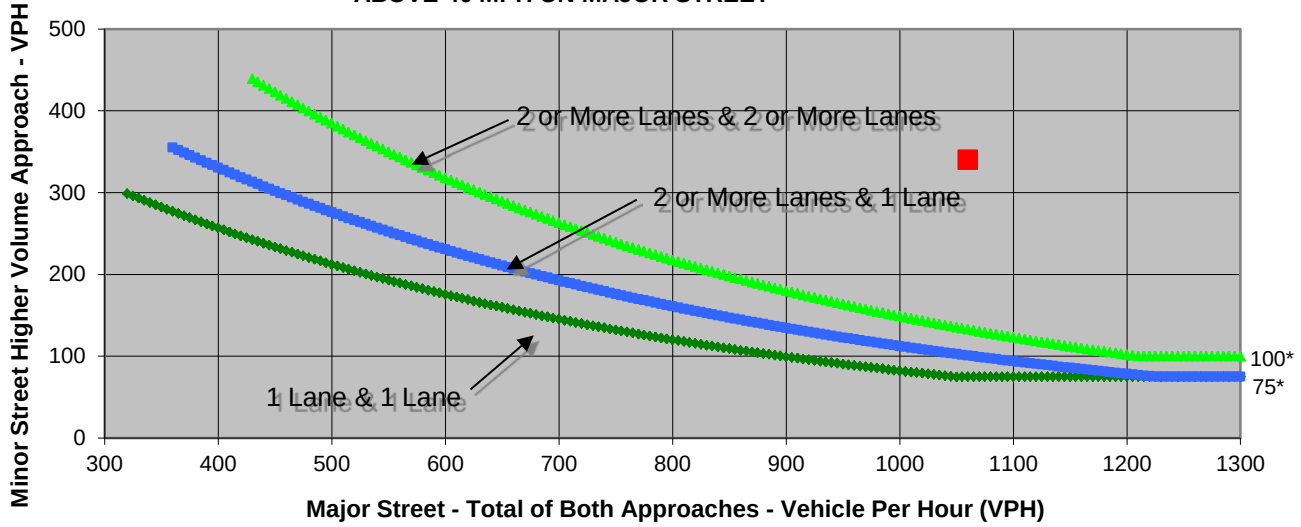
	NB	SB	EB	WB
Left	30	20	100	240
Through	30	20	360	340
Right	280	30	10	10
Total	340	70	470	590

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,060**	**340**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

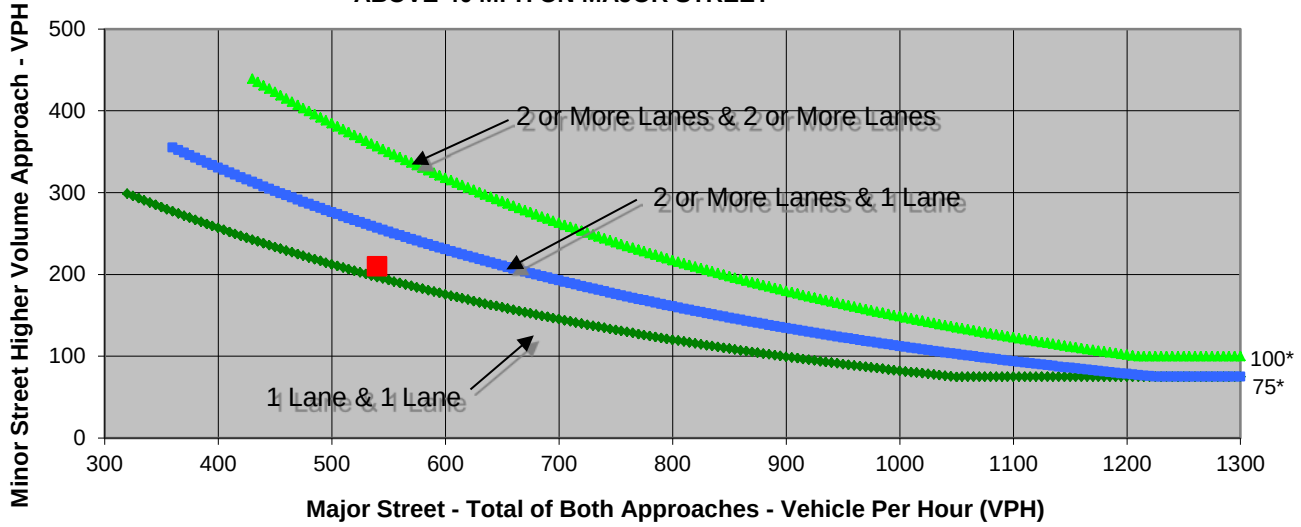
	NB	SB	EB	WB
Left	20			160
Through			150	160
Right	190		70	
Total	210	0	220	320

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**540**	**210**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

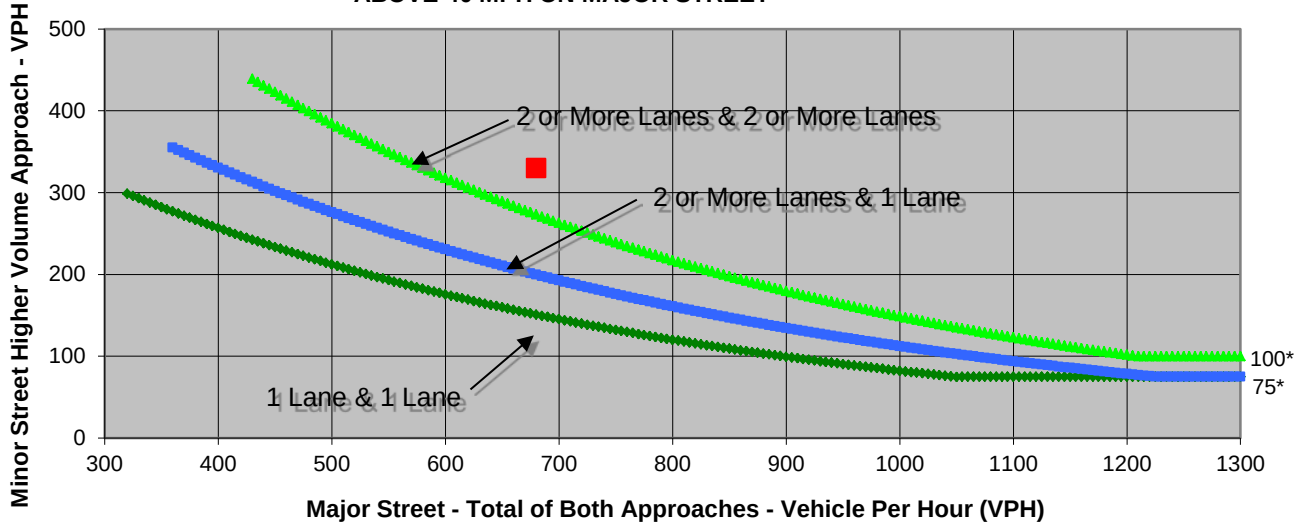
	NB	SB	EB	WB
Left	70			230
Through			220	200
Right	260		30	
Total	330	0	250	430

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**680**	**330**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

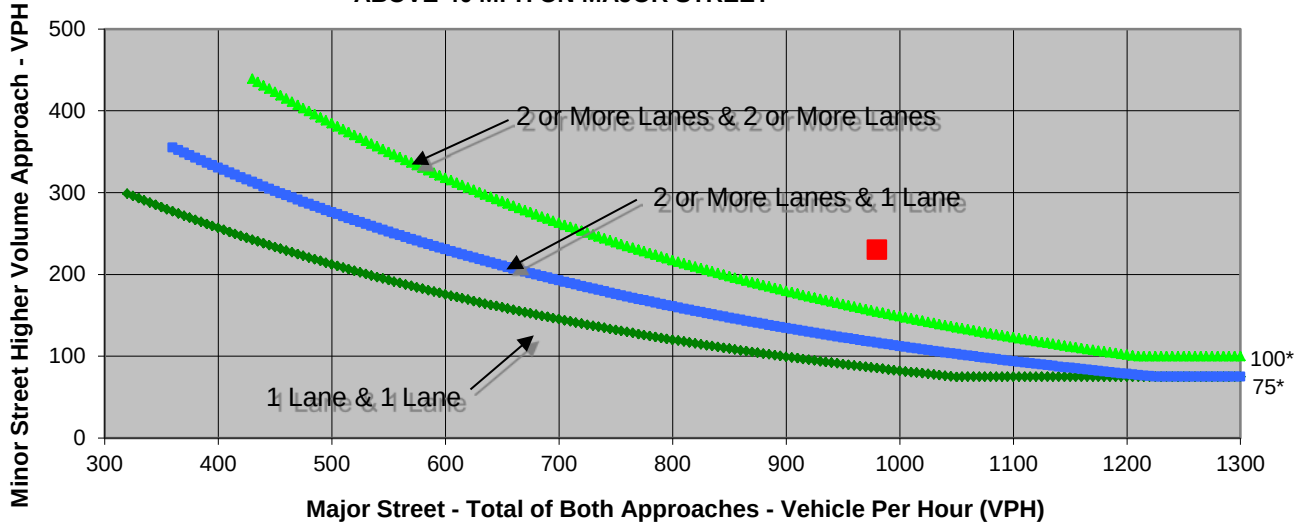
	NB	SB	EB	WB
Left	10	20	20	200
Through	10	20	260	460
Right	210	100	30	10
Total	230	140	310	670

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**980**	**230**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

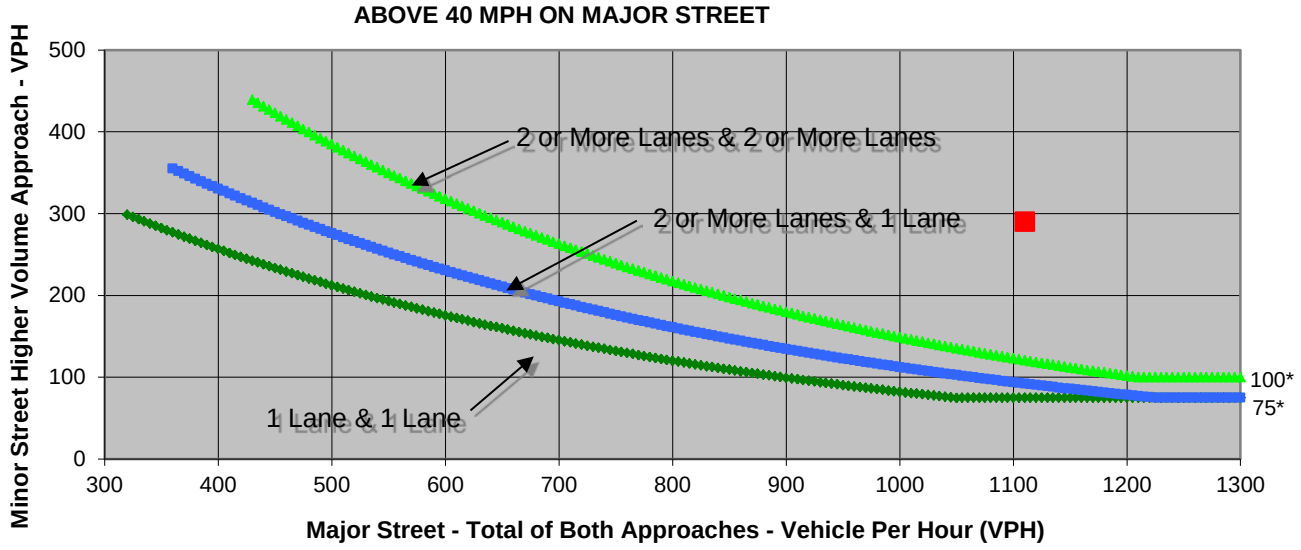
	NB	SB	EB	WB
Left	30	20	100	170
Through	30	20	410	410
Right	230	30	10	10
Total	290	70	520	590

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,110**	**290**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	AM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

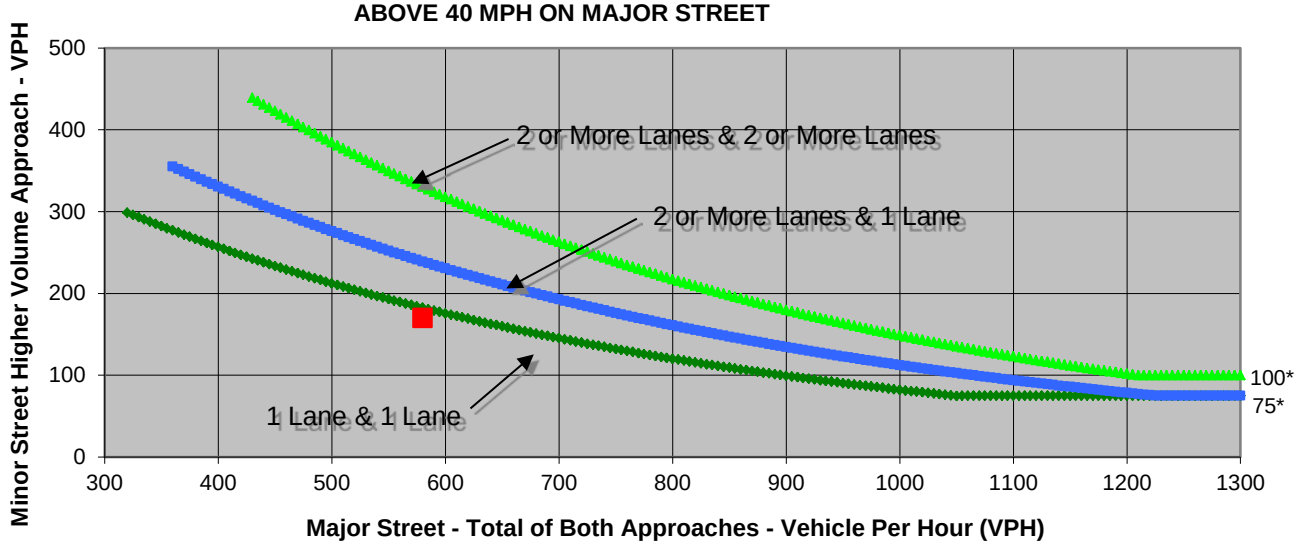
	NB	SB	EB	WB
Left	20	0	0	140
Through	0	0	190	180
Right	150	0	70	0
Total	170	0	260	320

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**580**	**170**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2B
Peak Hour	PM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

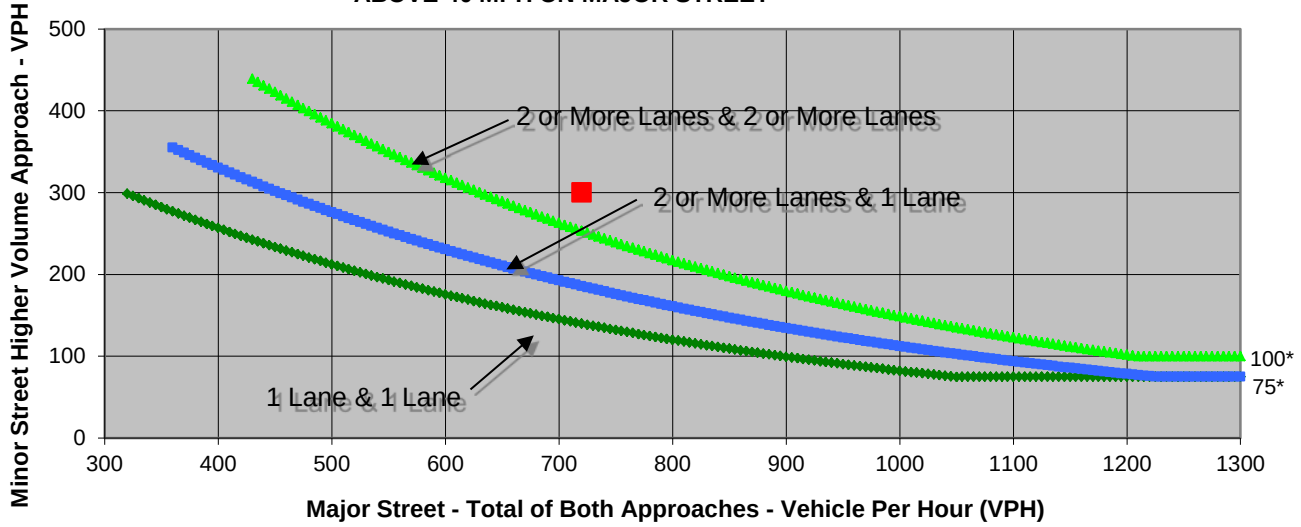
	NB	SB	EB	WB
Left	70	0	0	210
Through	0	0	250	230
Right	230	0	30	0
Total	300	0	280	440

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**720**	**300**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	AM

Major Street	Stearns Road
Minor Street	Stearns Connection

Turn Movement Volumes

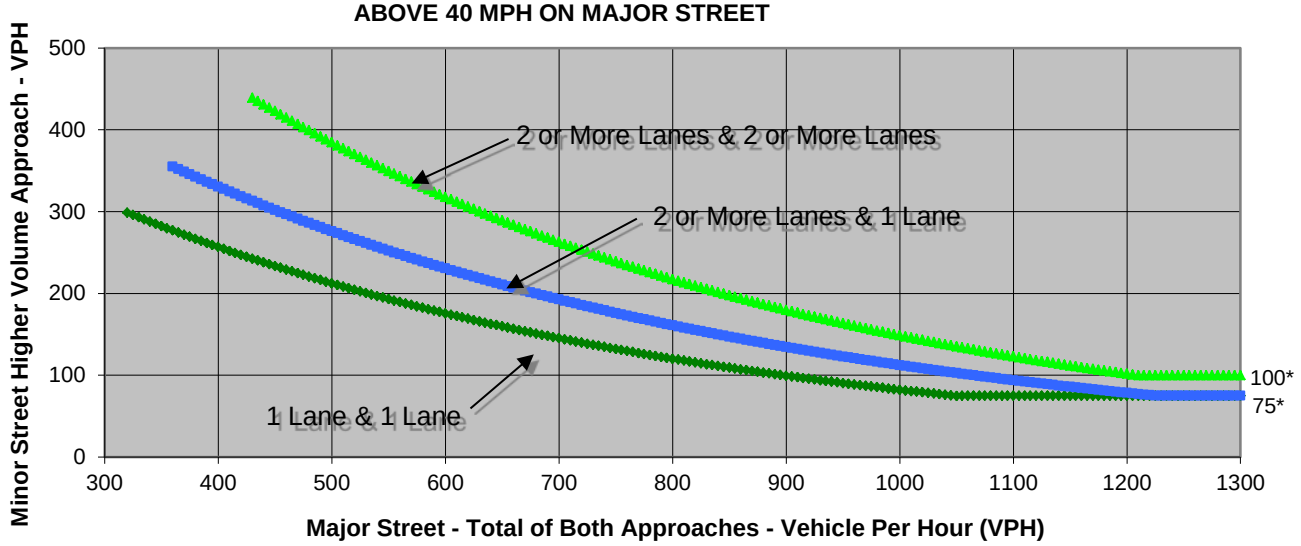
	NB	SB	EB	WB
Left	0	140	0	20
Through	10	10	0	0
Right	20	0	0	170
Total	30	150	0	190

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Stearns Road	Stearns Connection	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**180**	**190**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 2A
Peak Hour	PM

Major Street	Stearns Road
Minor Street	Stearns Connection

Turn Movement Volumes

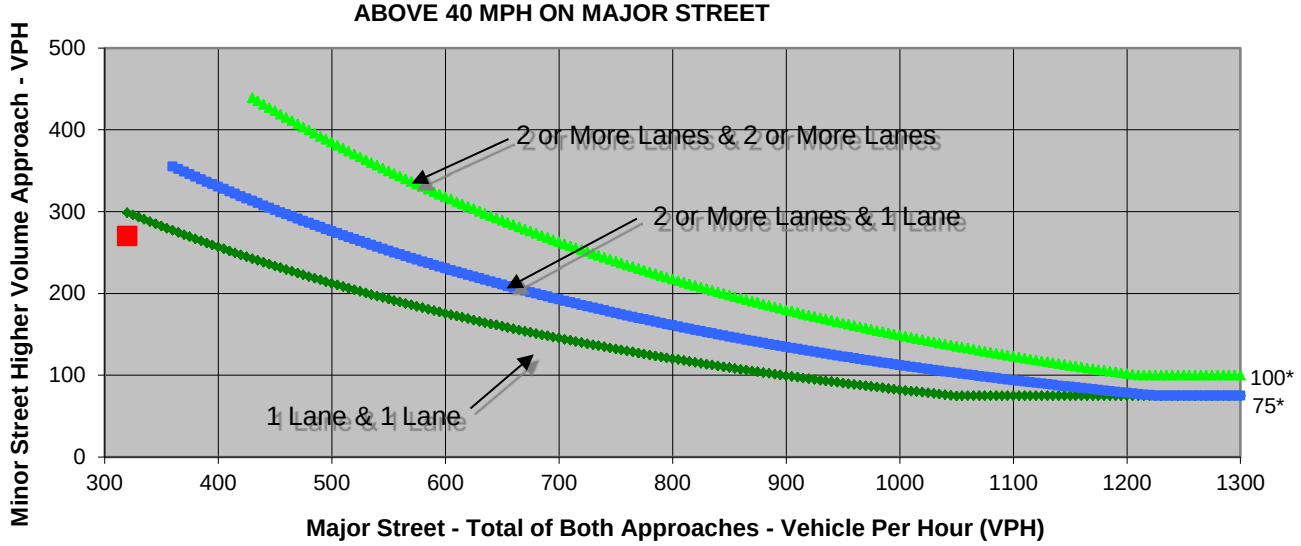
	NB	SB	EB	WB
Left	0	250	0	40
Through	20	20	0	0
Right	30	0	0	230
Total	50	270	0	270

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Stearns Road	Stearns Connection	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**320**	**270**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	AM

Major Street	Stearns Road
Minor Street	Stearns Connection

Turn Movement Volumes

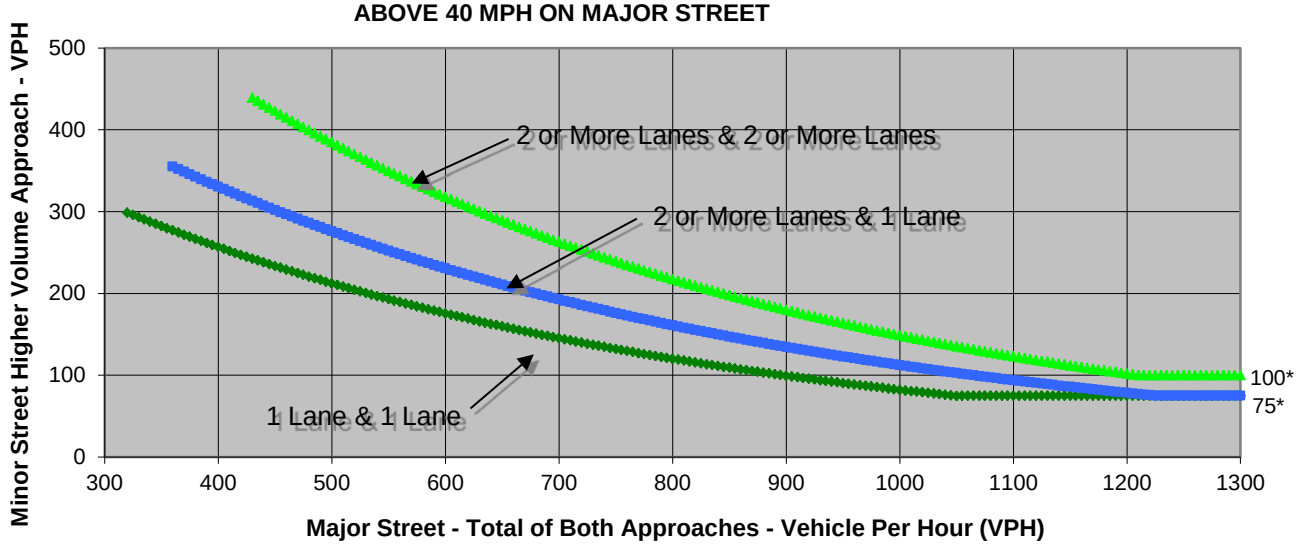
	NB	SB	EB	WB
Left	0	160	0	20
Through	10	10	0	0
Right	20	0	0	160
Total	30	170	0	180

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Stearns Road	Stearns Connection	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**200**	**180**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1A
Peak Hour	PM

Major Street	Stearns Road
Minor Street	Stearns Connection

Turn Movement Volumes

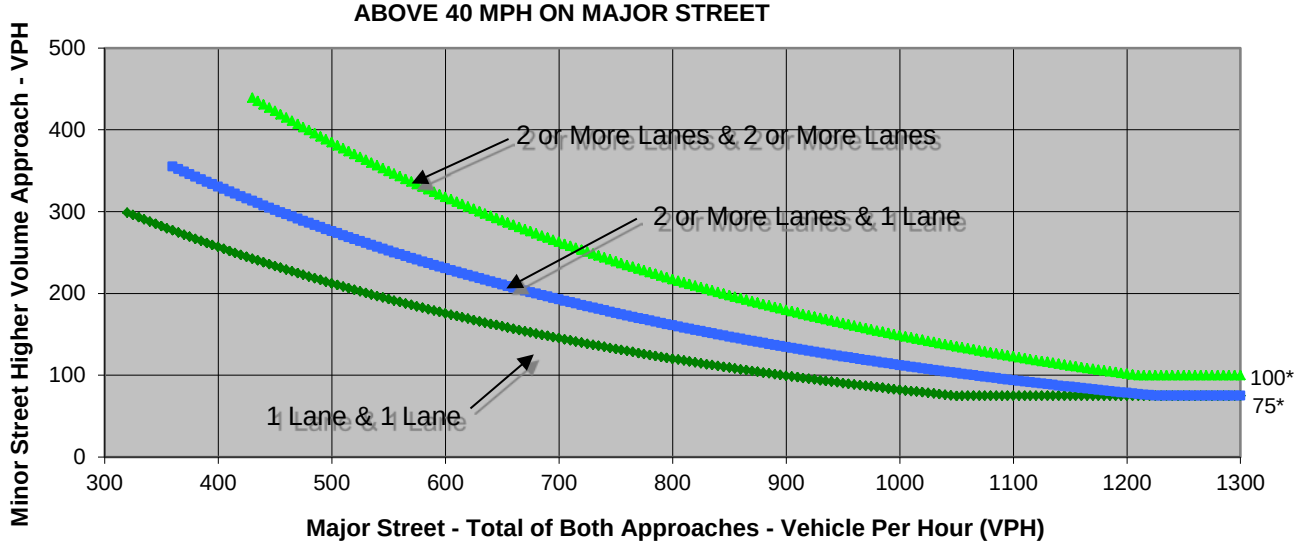
	NB	SB	EB	WB
Left	0	210	0	40
Through	20	20	0	0
Right	30	0	0	200
Total	50	230	0	240

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Stearns Road	Stearns Connection	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**280**	**240**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	AM

Major Street	Stearns Road
Minor Street	Stearns Connection

Turn Movement Volumes

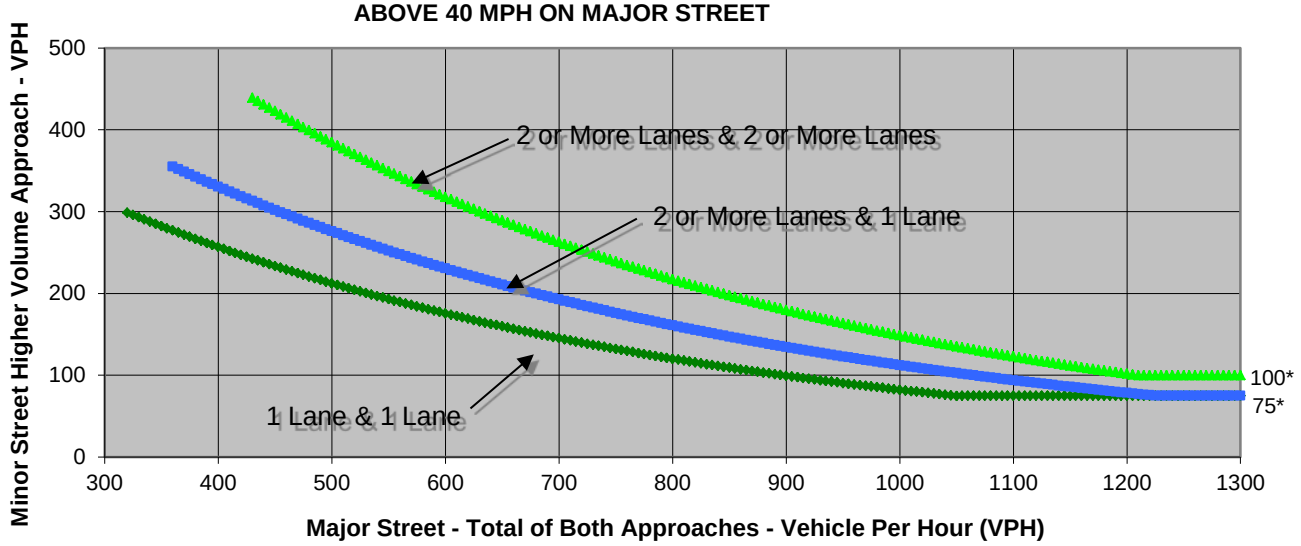
	NB	SB	EB	WB
Left	10	10	10	10
Through	110	80	10	10
Right	10	10	10	10
Total	130	100	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Stearns Road	Stearns Connection	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**230**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2022 Project Alt. 1B
Peak Hour	PM

Major Street	Stearns Road
Minor Street	Stearns Connection

Turn Movement Volumes

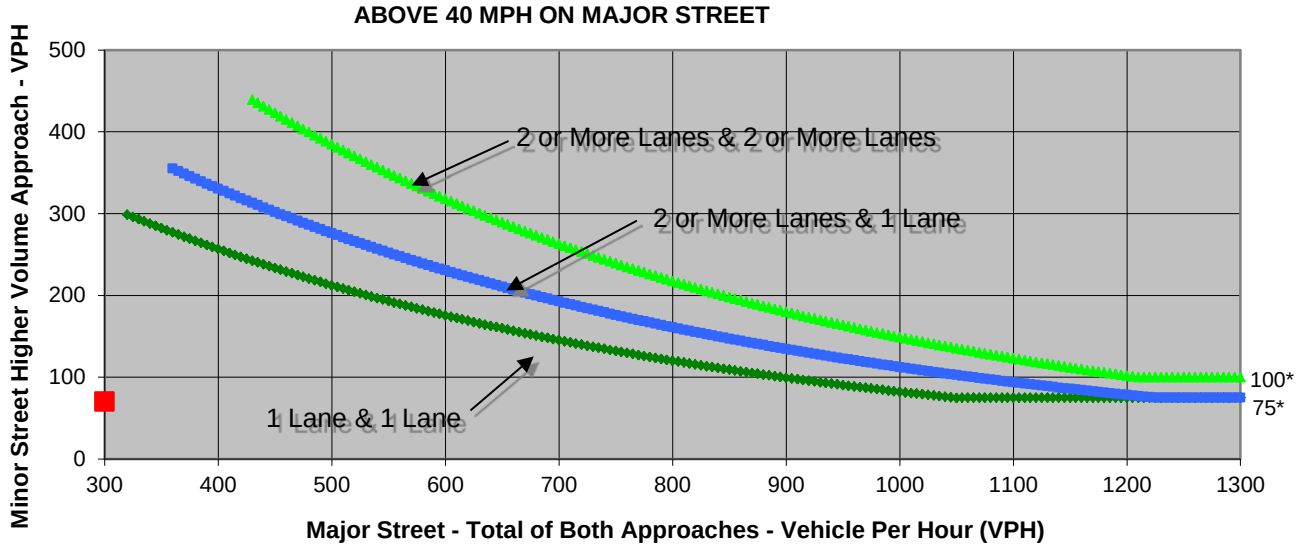
	NB	SB	EB	WB
Left	30	30	30	30
Through	90	90	10	10
Right	30	30	30	30
Total	150	150	70	70

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Stearns Road	Stearns Connection	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**300**	**70**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

APPENDIX M:
2022 INTERSECTION ANALYSIS CALCULATION WORKSHEETS

SimTraffic Performance Report
Year 2022 No Project AM Peak Hour
9/11/2014

1: Carver & SR 219 (Kiernan Ave) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.3	0.1	1.2	0	0	0	2	0.4	0.3	2.2	0.3	0.2	0.4
Total Del/Veh (s)	30.4	17.5	6	33.4	19.7	8.3	25.6	15.9	6	29	27.9	14.4	19.2
Vehicles Exited	41	621	126	66	807	51	179	62	24	17	116	67	2177
Hourly Exit Rate	41	621	126	66	807	51	179	62	24	17	116	67	2177
Input Volume	40	620	120	70	801	50	180	60	20	20	120	70	2170
% of Volume	102	100	105	95	101	103	100	103	120	85	97	96	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.3	0.3	0.3	0.2	0.2	0.2	0.1
Total Del/Veh (s)	35.4	22.7	15.5	27.5	13.3	3.6	27.7	18	4.5	29.7	29.5	13.4	18.4
Vehicles Exited	29	411	223	203	754	11	117	70	119	24	104	51	2116
Hourly Exit Rate	29	411	223	203	754	11	117	70	119	24	104	51	2116
Input Volume	30	411	220	210	750	10	120	70	120	30	100	50	2120
% of Volume	97	100	101	97	101	113	98	100	99	81	104	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.3	0	0	0	0	0	0	0.7	0.6	0.7	0.3
Total Del/Veh (s)	49.4	21.7	13.1	66.4	37.2	13.6	53	33.1	21.4	57.2	40	21.9	33.6
Vehicles Exited	123	221	44	9	446	126	24	289	10	71	436	224	2023
Hourly Exit Rate	123	221	44	9	446	126	24	289	10	71	436	224	2023
Input Volume	130	220	40	10	450	130	20	300	10	70	440	220	2040
% of Volume	95	100	109	92	99	97	120	96	103	102	99	102	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	16.9	5.2	7.7	0.5	16	12.1
Vehicles Exited	212	10	314	126	492	1154
Hourly Exit Rate	212	10	314	126	492	1154
Input Volume	210	10	320	120	492	1152
% of Volume	101	103	98	105	100	100
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	0.8	0.7	0	0.5
Total Del/Veh (s)	14	5.2	16.4	6.7	4.4	9.9
Vehicles Exited	295	10	211	579	126	1221
Hourly Exit Rate	295	10	211	579	126	1221
Input Volume	293	10	210	590	120	1223
% of Volume	101	103	100	98	105	100
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	2.3	0.2	2.3	0	0	0	0.2
Total Del/Veh (s)	40.2	24.5	8.2	38.5	31.1	24.5	44	21.8	3.6	41.9	26	9.3	26.4
Vehicles Exited	110	254	114	233	753	69	87	341	88	40	500	210	2799
Hourly Exit Rate	110	254	114	233	753	69	87	341	88	40	500	210	2799
Input Volume	110	261	110	230	750	70	90	350	90	40	500	210	2811
% of Volume	100	97	104	101	100	99	97	97	98	99	100	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.1	1.4	0.2	1.4	0.3	0.1	0.1	2.9	0.1	0.2	0.4
Total Del/Veh (s)	55.5	29.5	6.4	52.3	42	17	53.2	26.8	6.4	41.5	27.7	13.6	33.1
Vehicles Exited	205	599	175	141	1111	374	307	685	78	97	571	97	4440
Hourly Exit Rate	205	599	175	141	1111	374	307	685	78	97	571	97	4440
Input Volume	210	590	180	140	1110	370	300	690	80	100	560	100	4432
% of Volume	98	102	97	101	100	101	102	99	97	97	102	97	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

8: Coffee Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	3.7	0.7	3.6	2.8	0.8	2.5	0.8
Total Del/Veh (s)	33.5	19.6	3.6	29.6	20.9	5.7	27.9	12.8	2	33.9	23.7	3.6	17.8
Vehicles Exited	40	269	118	86	710	10	116	114	105	19	276	238	2101
Hourly Exit Rate	40	269	118	86	710	10	116	114	105	19	276	238	2101
Input Volume	40	281	120	90	701	10	120	110	100	20	270	230	2092
% of Volume	99	96	99	96	101	103	97	104	105	95	102	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3	0.1	3	2.5	0.1	0.1	3	0.1	0.2	3.1	0.1	3.2	1.2
Total Del/Veh (s)	36.3	21.9	6.4	36.1	31.2	7.6	29.9	14.6	5.1	36.4	27.8	9.3	24.3
Vehicles Exited	97	349	215	100	935	30	372	206	56	28	272	270	2930
Hourly Exit Rate	97	349	215	100	935	30	372	206	56	28	272	270	2930
Input Volume	100	350	220	100	940	30	380	210	60	30	270	270	2960
% of Volume	97	100	98	100	99	101	98	98	94	94	101	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.4	0.1	0.1	0.8	0.8	0.9	1.5	0.2	0.1	1.7	0.3	1.6	0.7
Total Del/Veh (s)	45.2	17.4	9.8	43.6	18.5	13.8	44.4	25.3	29.4	45.2	33.4	9	25.7

Vehicles Exited	56	336	64	231	555	41	117	71	173	50	106	106	1906
Hourly Exit Rate	56	336	64	231	555	41	117	71	173	50	106	106	1906
Input Volume	60	340	60	240	560	40	120	70	170	50	110	100	1920
% of Volume	93	99	107	96	99	102	98	101	102	101	97	106	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3	0.3	2.9	3.5	0.7	3.4	0.3	0.1	0.1	0.8
Total Del/Veh (s)	43.2	34.7	26.9	55.8	30.5	4.7	59.1	28.8	6.7	58	49.7	7	35.5
Vehicles Exited	100	276	49	230	472	50	51	306	127	58	490	170	2379
Hourly Exit Rate	100	276	49	230	472	50	51	306	127	58	490	170	2379
Input Volume	100	281	50	230	470	50	50	300	130	60	490	170	2381
% of Volume	100	98	98	100	100	101	103	102	98	96	100	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	3.4	1.6	0.1	1.5	0.1	0.1	0.1	1.7	0.2	1.7	0.6
Total Del/Veh (s)	34	21.2	3.2	40.9	26.9	3.9	28.3	8.9	2.3	37.4	28.8	9.6	21.2
Vehicles Exited	75	171	205	10	314	11	528	366	20	10	637	253	2600
Hourly Exit Rate	75	171	205	10	314	11	528	366	20	10	637	253	2600
Input Volume	70	170	200	10	320	10	520	370	20	10	640	250	2592
% of Volume	107	101	103	98	98	107	102	99	99	98	99	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.5	0.4	0.5	0.7	0.7	0.6	3.6	0.4	0.4	2.4	0.8	2.4	0.9
Total Del/Veh (s)	63.1	27.1	19.3	110	73.2	48.4	40.1	47.6	36.2	41.3	39.8	18.7	47.7
Vehicles Exited	120	396	19	20	497	196	51	193	39	157	132	158	1978
Hourly Exit Rate	120	396	19	20	497	196	51	193	39	157	132	158	1978
Input Volume	120	400	20	20	490	200	50	190	40	160	130	150	1970

% of Volume	100	99	96	101	101	98	103	101	97	98	101	105	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.6	0.5	0.5	2.3	0.8	1	2	0.6	0.6	1.9	0.5	0.5	0.9
Total Del/Veh (s)	51.8	50.2	37.2	56	30.7	21.5	69.2	32.2	22.7	53.2	35.4	28.6	39.2
Vehicles Exited	32	260	148	151	379	65	112	277	110	59	335	50	1978
Hourly Exit Rate	32	260	148	151	379	65	112	277	110	59	335	50	1978
Input Volume	30	260	150	150	380	60	110	270	110	60	340	50	1970
% of Volume	107	100	99	101	100	108	102	103	100	98	99	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.6	1.9	2.4	1.1	0.6	3.6	1.5
Total Del/Veh (s)	20.2	9.3	25.1	9.4	19.9	8.4	14.8
Vehicles Exited	416	136	235	612	100	189	1688
Hourly Exit Rate	416	136	235	612	100	189	1688
Input Volume	420	140	240	620	100	180	1700
% of Volume	99	97	98	99	100	105	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.5	3.6	2	0.8	2	3.3	0.9	3.3	1.8	0.2	0.2	1.2
Total Del/Veh (s)	39	35.7	12.4	49.8	36.7	15.8	45	27.4	9.5	45.1	30.2	6.3	30.7
Vehicles Exited	69	193	17	240	325	31	18	319	208	19	422	92	1953
Hourly Exit Rate	69	193	17	240	325	31	18	319	208	19	422	92	1953
Input Volume	70	190	20	240	320	30	20	320	200	20	420	90	1940
% of Volume	98	102	85	100	102	102	90	100	104	95	100	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.2	0.2	0.3	0.3	0.3
Total Del/Veh (s)	3	3.8	3.7	1.3	12	7.1	5.1
Vehicles Exited	124	212	157	43	56	245	837
Hourly Exit Rate	124	212	157	43	56	245	837
Input Volume	130	210	160	40	60	250	850
% of Volume	96	101	98	107	93	98	98
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.2	4.2	0.2	0.2	4.1	0.5
Total Del/Veh (s)	4.5	2.6	1.6	2	2	0.8	8.3	12	3.8	8.1	12.1	4.2	3.3
Vehicles Exited	37	258	10	19	338	20	18	21	12	19	30	23	805
Hourly Exit Rate	37	258	10	19	338	20	18	21	12	19	30	23	805
Input Volume	40	250	10	20	330	20	20	20	10	20	30	20	790
% of Volume	92	103	98	96	102	101	91	106	117	96	100	116	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.7	0.7	0.7	0.6	0.7	0.7	3.8	0.3	0.3	2.1	0.5	2.1	1
Total Del/Veh (s)	47	21.4	11.9	38.3	20.5	8.6	28.4	21.3	13.4	28.5	21.1	12.5	21.5
Vehicles Exited	69	617	57	35	548	75	88	63	21	108	62	140	1883
Hourly Exit Rate	69	617	57	35	548	75	88	63	21	108	62	140	1883
Input Volume	70	610	50	40	560	70	90	60	20	110	60	140	1882
% of Volume	98	101	113	88	98	107	98	105	105	98	103	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.7	0.7	0.7	0.4	0.2	0.2	2.1	0.9	2.1	0.2	0.2	0.1	0.6
Total Del/Veh (s)	152	70.9	61.9	84.9	55.4	10.9	50.2	50.8	12.5	73.7	53.6	46	56.2
Vehicles Exited	90	476	61	167	460	343	104	291	173	350	318	70	2903
Hourly Exit Rate	90	476	61	167	460	343	104	291	173	350	318	70	2903
Input Volume	90	480	60	170	450	350	100	290	180	350	320	70	2912
% of Volume	100	99	102	98	102	98	104	100	96	100	99	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.7	0.2	0.2	0.4	0.2	0.2	2	0.7	2	0.2	0.3	0.2	0.5
Total Del/Veh (s)	37.2	24.2	16.4	39.5	19.1	14.1	35.8	24.1	7.4	42.5	30.8	11.5	24.2
Vehicles Exited	50	491	174	148	613	40	255	110	80	31	156	101	2249
Hourly Exit Rate	50	491	174	148	613	40	255	110	80	31	156	101	2249
Input Volume	50	500	170	150	620	40	260	110	80	30	150	100	2262
% of Volume	100	98	102	99	99	100	98	100	100	102	104	101	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	3.8	0.6	3.7	3.1	0.8	3.4	3.2	1.3	3.1	1.4
Total Del/Veh (s)	43.1	34.2	6.8	41	31.7	7.5	45.3	27.4	10.8	40.7	29.5	17.5	28.3
Vehicles Exited	127	29	34	8	119	149	63	575	10	85	703	103	2005
Hourly Exit Rate	127	29	34	8	119	149	63	575	10	85	703	103	2005
Input Volume	130	30	30	10	120	140	70	580	10	90	700	100	2011
% of Volume	98	97	113	78	99	106	90	99	98	94	100	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.8	3.7	2.3	0.3	0.4	3.2	0.2	0.2	3	0.3	3	1.2
Total Del/Veh (s)	29.2	23.4	5.5	32.1	34.6	16.5	36.8	15.3	5.8	39.1	22.3	8.4	21

Vehicles Exited	178	41	60	29	138	12	69	403	28	9	519	163	1649
Hourly Exit Rate	178	41	60	29	138	12	69	403	28	9	519	163	1649
Input Volume	180	40	60	30	140	10	70	410	30	10	520	160	1661
% of Volume	99	103	100	96	99	117	99	98	93	88	100	102	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	170	170
Hourly Exit Rate	170	170
Input Volume	170	170
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

26: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	588	588
Hourly Exit Rate	588	588
Input Volume	590	590
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

27: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	164	164
Hourly Exit Rate	164	164
Input Volume	160	160

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

28: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	401	401
Hourly Exit Rate	401	401
Input Volume	410	410
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

29: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	607	607
Hourly Exit Rate	607	607
Input Volume	600	600
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

30: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	530	530
Hourly Exit Rate	530	530
Input Volume	530	530
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

31: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.7	0.4
Total Del/Veh (s)	3.6	3.1	3.3
Vehicles Exited	519	750	1269
Hourly Exit Rate	519	750	1269
Input Volume	530	750	1280
% of Volume	98	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

32: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	167	167
Hourly Exit Rate	167	167
Input Volume	170	170
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

33: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	890	890
Hourly Exit Rate	890	890
Input Volume	880	880
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

34: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.3	6.3
Vehicles Exited	681	681
Hourly Exit Rate	681	681
Input Volume	680	680
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

35: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	999	999
Hourly Exit Rate	999	999
Input Volume	1010	1010
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

37: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.6	5.6
Vehicles Exited	853	853
Hourly Exit Rate	853	853
Input Volume	850	850
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

38: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2

Vehicles Exited	200	200
Hourly Exit Rate	200	200
Input Volume	200	200
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

39: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.3	9.3
Vehicles Exited	694	694
Hourly Exit Rate	694	694
Input Volume	690	690
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

40: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	559	559
Hourly Exit Rate	559	559
Input Volume	560	560
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	601	601
Hourly Exit Rate	601	601
Input Volume	610	610

% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6	6
Vehicles Exited	539	539
Hourly Exit Rate	539	539
Input Volume	560	560
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.9	9.9
Vehicles Exited	729	729
Hourly Exit Rate	729	729
Input Volume	731	731
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7	7
Vehicles Exited	591	591
Hourly Exit Rate	591	591
Input Volume	601	601
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	168	168
Hourly Exit Rate	168	168
Input Volume	170	170
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	201	201
Hourly Exit Rate	201	201
Input Volume	200	200
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	476	476
Hourly Exit Rate	476	476
Input Volume	471	471
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	123	123
Hourly Exit Rate	123	123
Input Volume	130	130
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	208	208
Hourly Exit Rate	208	208
Input Volume	200	200
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	154	154
Hourly Exit Rate	154	154
Input Volume	150	150
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9	9

Vehicles Exited	1516	1516
Hourly Exit Rate	1516	1516
Input Volume	1511	1511
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.8	6.8
Vehicles Exited	746	746
Hourly Exit Rate	746	746
Input Volume	740	740
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.6	5.6
Vehicles Exited	850	850
Hourly Exit Rate	850	850
Input Volume	850	850
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

54: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	422	422
Hourly Exit Rate	422	422
Input Volume	410	410

% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

55: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	771	771
Hourly Exit Rate	771	771
Input Volume	770	770
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

56: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	80	80
Hourly Exit Rate	80	80
Input Volume	80	80
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

57: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	80	80
Hourly Exit Rate	80	80
Input Volume	80	80
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

58: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	1256	1256
Hourly Exit Rate	1256	1256
Input Volume	1270	1270
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

59: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	1099	1099
Hourly Exit Rate	1099	1099
Input Volume	1090	1090
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	479	479
Hourly Exit Rate	479	479
Input Volume	480	480
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3
Vehicles Exited	418	418
Hourly Exit Rate	418	418
Input Volume	410	410
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

64: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	522	522
Hourly Exit Rate	522	522
Input Volume	530	530
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7	7
Vehicles Exited	459	459
Hourly Exit Rate	459	459
Input Volume	450	450
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4

Vehicles Exited	268	268
Hourly Exit Rate	268	268
Input Volume	270	270
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	372	372
Hourly Exit Rate	372	372
Input Volume	380	380
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	111	111
Hourly Exit Rate	111	111
Input Volume	109	109
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	155	155
Hourly Exit Rate	155	155
Input Volume	150	150

% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	308	308
Hourly Exit Rate	308	308
Input Volume	309	309
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

74: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	375	375
Hourly Exit Rate	375	375
Input Volume	360	360
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

75: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	634	634
Hourly Exit Rate	634	634
Input Volume	639	639
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3
Vehicles Exited	1052	1052
Hourly Exit Rate	1052	1052
Input Volume	1050	1050
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	780	780
Hourly Exit Rate	780	780
Input Volume	770	770
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	371	371
Hourly Exit Rate	371	371
Input Volume	370	370
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	79	79
Hourly Exit Rate	79	79
Input Volume	80	80
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.9	6.9
Vehicles Exited	744	744
Hourly Exit Rate	744	744
Input Volume	740	740
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.8	9.8
Vehicles Exited	781	781
Hourly Exit Rate	781	781
Input Volume	790	790
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7

Vehicles Exited	608	608
Hourly Exit Rate	608	608
Input Volume	611	611
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	594	594
Hourly Exit Rate	594	594
Input Volume	600	600
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.4	0	0.1
Total Del/Veh (s)	1.6	4.3	3.2
Vehicles Exited	439	701	1140
Hourly Exit Rate	439	701	1140
Input Volume	440	700	1140
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	379	379
Hourly Exit Rate	379	379
Input Volume	370	370

% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

92: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	288	288
Hourly Exit Rate	288	288
Input Volume	280	280
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	509	509
Hourly Exit Rate	509	509
Input Volume	510	510
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	60	60
Hourly Exit Rate	60	60
Input Volume	60	60
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	77	77
Hourly Exit Rate	77	77
Input Volume	80	80
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.8	5.8
Vehicles Exited	541	541
Hourly Exit Rate	541	541
Input Volume	540	540
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

100: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	429	429
Hourly Exit Rate	429	429
Input Volume	430	430
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

101: SR 219 (Kiernan Ave)#1 Performance by movement

Movement	EBT	EBR	WBT	WBR	All
Denied Del/Veh (s)	0	0	0	0	0
Total Del/Veh (s)	5.7	5	6.4	6.9	6.2
Vehicles Exited	477	81	974	80	1612
Hourly Exit Rate	477	81	974	80	1612
Input Volume	480	80	976	80	1617
% of Volume	99	101	100	100	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	704	704
Hourly Exit Rate	704	704
Input Volume	700	700
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

103: Claribel Rd Performance by movement

Movement	EBT	WBT	NBR	All
Denied Del/Veh (s)	0	0	0.1	0
Total Del/Veh (s)	5	7.2	2	6.5
Vehicles Exited	383	1078	44	1505
Hourly Exit Rate	383	1078	44	1505
Input Volume	392	1070	50	1512
% of Volume	98	101	88	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1

Vehicles Exited	850	850
Hourly Exit Rate	850	850
Input Volume	840	840
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	334	334
Hourly Exit Rate	334	334
Input Volume	340	340
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	1578	1578
Hourly Exit Rate	1578	1578
Input Volume	1590	1590
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	779	779
Hourly Exit Rate	779	779
Input Volume	780	780

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	401	401
Hourly Exit Rate	401	401
Input Volume	410	410
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

109: Claribel Rd Performance by movement

Movement	EBT	WBT	NBR	SBR	All
Denied Del/Veh (s)	0	0	0.1	0.2	0
Total Del/Veh (s)	5.2	6.4	2.6	4.5	5.7
Vehicles Exited	399	698	29	111	1237
Hourly Exit Rate	399	698	29	111	1237
Input Volume	408	696	30	110	1244
% of Volume	98	100	97	101	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	433	433
Hourly Exit Rate	433	433
Input Volume	439	439
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	451	451
Hourly Exit Rate	451	451
Input Volume	451	451
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	705	705
Hourly Exit Rate	705	705
Input Volume	690	690
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	460	460
Hourly Exit Rate	460	460
Input Volume	470	470
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	420	420
Hourly Exit Rate	420	420
Input Volume	420	420
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	714	714
Hourly Exit Rate	714	714
Input Volume	720	720
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	973	973
Hourly Exit Rate	973	973
Input Volume	980	980
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4

Vehicles Exited	543	543
Hourly Exit Rate	543	543
Input Volume	550	550
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.4	8.4
Vehicles Exited	637	637
Hourly Exit Rate	637	637
Input Volume	620	620
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

122: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.4	6.4
Vehicles Exited	435	435
Hourly Exit Rate	435	435
Input Volume	430	430
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6	6
Vehicles Exited	286	286
Hourly Exit Rate	286	286
Input Volume	290	290

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

Total Network Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	37.6
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	42
Denied Entry Before	0
Denied Entry After	0

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Queuing an AM Peak Hour
Year 2022 N ########

Intersection: 1: Carver & SR 219 (Kiernan Ave)

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	92	157	180	199	101	123	182	214	248	66	209	102	58	184
Average Queue (ft)	33	70	76	90	39	51	74	99	112	19	97	30	15	84
95th Queue (ft)	75	127	141	166	76	99	150	183	202	50	173	75	43	152
Link Distance (ft)		3295	3295	3295			2554	2554	2554			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	530				410	580				530	330		300	
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T	R	L	TR
Maximum Queue (ft)	77	150	156	140	163	225	137	172	192	30	153	95	89	78	165
Average Queue (ft)	25	58	68	59	73	110	55	68	81	2	69	33	31	19	73
95th Queue (ft)	61	115	126	117	136	190	113	136	160	14	130	73	64	52	138
Link Distance (ft)		2554	2554	2554			3622	3622	3622			3683			3958
Upstream Blk Time (%)															
Queuing Penalty (veh)															
Storage Bay Dist (ft)	715				355	660				415	400		400	300	
Storage Blk Time (%)															
Queuing Penalty (veh)															

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	235	264	149	485	220	87	207	170	234	400	379
Average Queue (ft)	103	103	16	298	101	25	97	89	68	203	170
95th Queue (ft)	188	200	69	485	247	65	167	152	158	335	309
Link Distance (ft)		5459		491			464	464		5159	
Upstream Blk Time (%)				2							
Queuing Penalty (veh)				14							
Storage Bay Dist (ft)	250		90		160	185			290		800
Storage Blk Time (%)		1	0	43	0		1			3	
Queuing Penalty (veh)		1	0	61	0		0			16	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	186	177	353	304
Average Queue (ft)	94	69	153	67
95th Queue (ft)	161	137	325	216
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	276	172	196	79
Average Queue (ft)	105	82	19	26
95th Queue (ft)	212	144	122	59
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		530		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	122	100	123	164	98	112	154	152	378	380	172	210	169	77	116	239	248	180
Average Queue (ft)	47	36	37	60	23	33	75	83	174	195	71	100	68	25	40	123	132	73
95th Queue (ft)	95	80	85	122	66	79	138	137	305	331	141	177	140	57	91	200	207	140
Link Distance (ft)			1459	1459	1459				2547	2547		1946	1946			520	520	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	775	775				660	975	975			260			540	420			535
Storage Blk Time (%)												0						
Queuing Penalty (veh)												0						

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	159	176	183	187	193	104	110	277	438	412	407	330	242	255	220	234	212	74	115	144	256	239	207
Average Queue (ft)	73	92	104	110	97	50	37	84	242	230	196	162	112	137	112	129	104	27	21	64	154	134	91
95th Queue (ft)	135	149	162	170	168	86	88	189	392	375	357	306	202	222	185	205	183	60	68	118	229	215	176
Link Distance (ft)			4930	4930	4930				2156	2156	2156				3853	3853	3853				1768	1768	1768
Upstream Blk Time (%)																							
Queuing Penalty (veh)																							

Storage Bay Dist (ft)	350	350				350	300	300				350	225	225			200	500	500
Storage Blk Time (%)									4		2	0	0	1	0	0			
Queuing Penalty (veh)									7		7	2	1	3	0	0			

Intersection: 8: Coffee Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	L	T	T	L	T	L	T	R
Maximum Queue (ft)	106	152	166	141	294	289	153	117	98	259	62
Average Queue (ft)	32	57	70	57	127	135	70	44	20	119	2
95th Queue (ft)	77	113	127	109	234	238	129	96	64	206	45
Link Distance (ft)		2570	2570		2632	2632		1530		1977	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	320			420			260		110		260
Storage Blk Time (%)						1				9	
Queuing Penalty (veh)						0				23	

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	46	116	201	155	44	101	155	377	323	213	217	255	125	111	76	188	157	169
Average Queue (ft)	11	53	98	48	5	37	70	223	186	79	83	147	49	39	25	106	49	75
95th Queue (ft)	36	99	168	121	26	77	129	317	280	183	184	225	100	84	60	170	123	130
Link Distance (ft)			1407	1407	1407			1696	1696	1696			1262	1262		1270	1270	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)								1				0						
Queuing Penalty (veh)								1				0						

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	132	161	201	160	175	199	241	187	132	229	143	232	135
Average Queue (ft)	51	77	81	68	93	89	115	90	46	110	48	85	54
95th Queue (ft)	108	135	155	130	151	162	209	160	104	192	102	173	111

Link Distance (ft)		2722	2722			3225			2570	2570		2170
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	525			625	625		675	200			150		75
Storage Blk Time (%)								0	0		0	13	1
Queuing Penalty (veh)								0	0		0	20	2

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	L	T	R	L	T	R
Maximum Queue (ft)	175	173	200	332	334	285	195	335	255	374	706	184
Average Queue (ft)	78	81	104	179	142	112	59	159	51	85	332	54
95th Queue (ft)	148	150	177	308	285	225	139	280	137	255	685	163
Link Distance (ft)		2526	2526		1889	1889		1553			3994	3994
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	410			310			170		240	315		
Storage Blk Time (%)				3	0	0	0	7			13	
Queuing Penalty (veh)				8	0	0	2	14			8	

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	34	107	129	75	54	150	147	95	60	250	291	141	124	42	261	254	134
Average Queue (ft)	5	40	54	12	12	90	74	19	8	132	170	69	39	9	149	142	57
95th Queue (ft)	22	83	101	42	41	137	124	63	34	220	251	123	94	30	226	226	104
Link Distance (ft)		1330	1330	1330		1803	1803	1803			2052	2052	2052		2174	2174	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)															0	0	
Queuing Penalty (veh)															0	0	

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R

Maximum Queue (ft)	228	460	130	1104	210	216	418	234	386	160
Average Queue (ft)	106	202	30	572	150	53	197	136	154	98
95th Queue (ft)	199	368	90	1185	272	140	350	239	317	177
Link Distance (ft)		3224		3310			1227		1683	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	775		75		150	250		175		100
Storage Blk Time (%)			1	54	1	0	5	6	15	6
Queuing Penalty (veh)			8	119	3	0	3	16	46	18

Intersection: 14: Roselle & Claribel

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	257	531	320	447	258	395	295	437
Average Queue (ft)	44	260	138	209	111	197	65	214
95th Queue (ft)	157	464	264	384	225	343	168	366
Link Distance (ft)		2408		2612		2313		2478
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	300		300		300		300	
Storage Blk Time (%)		9	0	3	1	2		3
Queuing Penalty (veh)		3	1	5	2	2		2

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	352	160	218	259	101	119
Average Queue (ft)	166	72	116	96	45	47
95th Queue (ft)	292	163	195	190	87	91
Link Distance (ft)	1820			1989	1574	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	200			150
Storage Blk Time (%)	20	0	1	0		0
Queuing Penalty (veh)	28	1	6	1		0

Intersection: 16: Claus Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	162	266	134	210	589	135	80	389	210	130	453	84
Average Queue (ft)	56	118	13	162	239	24	19	157	74	20	207	28
95th Queue (ft)	124	217	61	237	505	88	54	296	176	78	363	67
Link Distance (ft)		2148			2759			2156			2402	2402
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		75	150		75	250		150	250		
Storage Blk Time (%)	0	24	0	17	30	0		8	0		6	
Queuing Penalty (veh)	0	22	0	59	83	0		18	0		1	

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	101	7	154
Average Queue (ft)	27	0	70
95th Queue (ft)	80	4	126
Link Distance (ft)	2004	5377	1916
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Bentley & Claribel

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	86	45	88	55	77	62
Average Queue (ft)	15	5	29	12	30	20
95th Queue (ft)	55	24	65	41	63	51
Link Distance (ft)	2720	2487	1498		1216	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			6	1	7	2

Queuing Penalty (veh)	1	0	1	1

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	276	524	238	239	548	259	128	120	136	131	118
Average Queue (ft)	66	209	32	39	246	40	55	43	58	34	49
95th Queue (ft)	173	397	139	127	446	152	107	93	108	88	96
Link Distance (ft)		4913			2604			1261		1636	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250		200	250		200	250		100		75
Storage Blk Time (%)		7			10				3	2	2
Queuing Penalty (veh)		9			11				6	4	4

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	1232	260	360	946	441	314	340	265	775	675
Average Queue (ft)	92	513	228	234	434	107	175	182	89	404	286
95th Queue (ft)	135	1201	307	416	837	276	277	288	194	726	552
Link Distance (ft)		2750			2507	2507		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	66	39	16	3	19			1	0		
Queuing Penalty (veh)	358	151	54	15	33			4	0		

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	95	314	315	216	256	271	149	170	193	107	105	228	149
Average Queue (ft)	34	146	150	88	122	142	62	95	65	39	30	94	53
95th Queue (ft)	74	251	261	169	215	233	123	150	134	87	75	179	111
Link Distance (ft)		1972	1972		2690	2690			1873			2914	
Upstream Blk Time (%)													

Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)		1		1	1		0	0	16	1	0	10	0
Queuing Penalty (veh)		1		2	1		0	0	53	6	0	13	0

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	230	113	95	54	193	132	149	303	274	167	440	340
Average Queue (ft)	109	28	23	10	81	55	55	180	134	69	200	171
95th Queue (ft)	197	78	68	37	160	105	118	277	251	139	339	300
Link Distance (ft)		5561			2237			1498			1981	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	225		225	400		300	400		300
Storage Blk Time (%)	1				0	0		0	0		1	1
Queuing Penalty (veh)	1				0	0		1	0		6	2

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	186	83	76	82	203	131	210	181	64	274	231	122
Average Queue (ft)	99	21	21	27	97	55	96	64	12	147	116	52
95th Queue (ft)	169	56	53	66	167	112	174	142	46	238	211	95
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)					1					0		
Queuing Penalty (veh)					0					0		

Intersection: 101: SR 219 (Kiernan Ave)#1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)

95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 103: Claribel Rd

Movement	NB
Directions Served	R
Maximum Queue (ft)	58
Average Queue (ft)	11
95th Queue (ft)	38
Link Distance (ft)	329
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 109: Claribel Rd

Movement	NB	SB
Directions Served	R	R
Maximum Queue (ft)	65	96
Average Queue (ft)	9	30
95th Queue (ft)	37	74
Link Distance (ft)	230	264
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary
Network wide Queuing Penalty: 1378

SimTraffic Performance Report
Year 2022 No Project PM Peak Hour
9/11/2014

1: Carver & SR 219 (Kiernan Ave) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.9	0.1	0.9	0	0	0	2	0.3	0.3	1.9	0.2	0.2	0.2
Total Del/Veh (s)	26.8	11.9	4.7	30.1	16	8.3	24.3	20.4	9.1	27.2	21.2	8.8	14.6
Vehicles Exited	39	936	148	37	901	29	76	86	83	49	80	23	2487
Hourly Exit Rate	39	936	148	37	901	29	76	86	83	49	80	23	2487
Input Volume	40	950	150	40	900	30	80	90	80	50	80	20	2510
% of Volume	98	99	99	93	100	97	95	96	103	98	100	114	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.4	0.4	0.4	0.2	0.2	0.2	0.1
Total Del/Veh (s)	41.9	33.5	15	37.8	17.6	5.2	35.9	22.5	8.6	37.4	33.5	21.2	26.5
Vehicles Exited	47	826	197	214	682	30	267	162	189	58	140	22	2834
Hourly Exit Rate	47	826	197	214	682	30	267	162	189	58	140	22	2834
Input Volume	50	830	200	220	681	30	270	160	180	60	140	20	2841
% of Volume	94	99	99	97	100	101	99	101	105	97	100	109	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.4	0.5	0	0	0	0	0	0	0.8	0.8	0.7	0.4
Total Del/Veh (s)	67.8	31.2	22.9	59.3	41.1	12.6	52.9	37	31.2	70.8	34.8	19	39.4
Vehicles Exited	189	332	22	10	337	108	40	458	12	199	457	192	2356
Hourly Exit Rate	189	332	22	10	337	108	40	458	12	199	457	192	2356
Input Volume	190	330	20	10	341	110	40	451	10	200	450	190	2342
% of Volume	99	101	109	98	99	98	101	102	117	100	102	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	14.1	4.6	9.1	1.5	13.7	9.3
Vehicles Exited	126	10	498	344	489	1467
Hourly Exit Rate	126	10	498	344	489	1467
Input Volume	130	10	490	340	481	1452
% of Volume	97	98	102	101	102	101
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	0.5	0.4	0	0.2
Total Del/Veh (s)	20.2	10.7	24.3	5.7	9.8	13.6
Vehicles Exited	535	9	127	453	344	1468
Hourly Exit Rate	535	9	127	453	344	1468
Input Volume	532	10	130	460	340	1473
% of Volume	101	88	98	98	101	100
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	1.9	0.4	1.9	0	0	0	0.3
Total Del/Veh (s)	51.5	26.2	13.5	43.8	30.3	21.5	75.4	23.8	8.4	43.4	27.4	7.1	27.9
Vehicles Exited	259	576	350	170	514	49	178	661	304	39	439	194	3733
Hourly Exit Rate	259	576	350	170	514	49	178	661	304	39	439	194	3733
Input Volume	260	580	340	170	520	50	180	660	310	40	450	190	3750
% of Volume	100	99	103	100	99	98	99	100	98	98	98	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.2	2.5	0.2	2.5	0.3	0.1	0.2	2.1	0.3	0.3	0.5
Total Del/Veh (s)	80.6	95.3	39	105	41.6	9.2	63.1	37.9	14.7	48.1	33.3	27.4	53.1
Vehicles Exited	231	1248	277	149	737	249	335	870	140	463	1179	171	6049
Hourly Exit Rate	231	1248	277	149	737	249	335	870	140	463	1179	171	6049
Input Volume	230	1250	280	150	740	250	330	860	140	460	1160	170	6020
% of Volume	100	100	99	99	100	100	102	101	100	101	102	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

8: Coffee Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	3.3	1.1	3.3	2.7	0.5	2.7	0.8
Total Del/Veh (s)	28	20	5.3	30.1	20.3	4.7	26.7	18.6	3.4	29.8	20.8	2.4	17.5
Vehicles Exited	133	544	162	107	530	10	74	313	268	16	176	116	2449
Hourly Exit Rate	133	544	162	107	530	10	74	313	268	16	176	116	2449
Input Volume	130	551	170	110	530	10	80	310	270	20	170	120	2472
% of Volume	102	99	95	97	100	98	92	101	99	79	104	97	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.9	0.1	1.9	2.9	0.1	0.1	2.7	0.1	0.1	3.2	0.1	3.3	1
Total Del/Veh (s)	37.1	24.4	7.4	34.8	32.7	9	32.8	23.3	12.3	34.1	26.1	6.7	24.7
Vehicles Exited	363	995	411	78	630	38	296	416	139	97	207	200	3870
Hourly Exit Rate	363	995	411	78	630	38	296	416	139	97	207	200	3870
Input Volume	360	990	400	80	620	40	290	420	140	100	210	200	3851
% of Volume	101	100	103	98	102	94	102	99	99	97	99	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.3	0.2	0.2	0.8	0.8	0.9	1.5	0.2	0.1	1.7	0.3	1.8	0.6
Total Del/Veh (s)	45.6	27.2	21.6	45.8	20.1	14.9	51.3	30.7	36.7	53.5	36.7	7.3	32.6

Vehicles Exited	90	622	134	401	385	30	140	133	251	49	115	59	2409
Hourly Exit Rate	90	622	134	401	385	30	140	133	251	49	115	59	2409
Input Volume	90	620	130	400	380	30	140	130	250	50	110	60	2390
% of Volume	100	100	103	100	101	101	100	102	100	98	105	99	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0	0	3.1	0.3	3	3.2	1.3	3.2	0.3	0.1	0.1	1
Total Del/Veh (s)	75.9	35.2	27.4	72.9	31.7	4.3	71.3	53.3	24.1	53.8	40.8	6.4	42.4
Vehicles Exited	238	455	70	239	391	61	59	476	292	57	430	168	2936
Hourly Exit Rate	238	455	70	239	391	61	59	476	292	57	430	168	2936
Input Volume	250	454	70	240	390	60	60	480	290	60	430	170	2955
% of Volume	95	100	100	99	100	102	98	99	101	95	100	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.5	0.4	2.8	3.6	0.1	3.5	0.3	0.1	0.2	1.9	0.2	1.8	0.8
Total Del/Veh (s)	34.5	23	4.7	37.2	27.5	6.8	33.2	16.9	10	43.4	26.8	6.8	20.5
Vehicles Exited	144	435	595	19	297	22	338	740	40	31	600	121	3382
Hourly Exit Rate	144	435	595	19	297	22	338	740	40	31	600	121	3382
Input Volume	150	440	610	20	290	20	340	750	40	30	600	120	3409
% of Volume	96	99	98	94	102	109	99	99	101	104	100	101	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.7	0.7	0.8	0.4	0.4	0.4	3.6	0.5	0.4	2.4	1	2.3	1
Total Del/Veh (s)	71	44.7	36.9	113	85.3	54.8	38.7	48	39.9	52.8	49.7	23.3	55.8
Vehicles Exited	238	547	31	29	405	116	60	220	34	232	184	172	2268
Hourly Exit Rate	238	547	31	29	405	116	60	220	34	232	184	172	2268
Input Volume	240	550	30	30	410	120	60	220	30	240	180	170	2279

% of Volume	99	99	104	97	99	97	100	100	114	97	102	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.6	0.7	0.8	0.6	0.6	0.6	1.1	1.1	1.1	0.4	0.4	0.4	0.8
Total Del/Veh (s)	133	136	132	103	39.7	33.1	127	96.5	87.6	72.8	50	40	90.5
Vehicles Exited	67	358	162	130	362	72	189	365	158	47	275	61	2246
Hourly Exit Rate	67	358	162	130	362	72	189	365	158	47	275	61	2246
Input Volume	70	370	170	130	360	70	190	370	160	50	270	60	2271
% of Volume	95	97	95	100	101	102	99	99	99	94	102	102	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.9	1.9	2.4	0.8	0.7	3.6	1.5
Total Del/Veh (s)	25.5	15	34	7.4	29.3	15.4	19.9
Vehicles Exited	614	177	213	452	105	222	1783
Hourly Exit Rate	614	177	213	452	105	222	1783
Input Volume	610	170	220	450	110	220	1780
% of Volume	101	104	97	100	96	101	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.5	0.7	3.5	2.1	0.7	2.1	3.2	1.2	3.2	1.7	0.3	0.1	1.4
Total Del/Veh (s)	40.9	40.3	16.1	50.9	39	18.2	55.3	49.7	24.8	50.9	36.6	4.6	38.2
Vehicles Exited	116	235	42	274	194	32	29	419	289	30	418	129	2207
Hourly Exit Rate	116	235	42	274	194	32	29	419	289	30	418	129	2207
Input Volume	120	230	40	280	200	30	30	420	300	30	410	130	2220
% of Volume	97	102	104	98	97	107	97	100	96	100	102	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.4	0.5	0.3	0.3	0.3	0.3	0.4
Total Del/Veh (s)	8.2	10.3	5.6	2.4	44.3	29	14
Vehicles Exited	335	191	239	71	59	247	1142
Hourly Exit Rate	335	191	239	71	59	247	1142
Input Volume	340	200	230	70	60	250	1150
% of Volume	98	96	104	101	98	99	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.4	0.3	0.3	0.3	0.3	0.1	0.1	4.1	0.4	0.4	3.8	0.7
Total Del/Veh (s)	2.2	2.4	1.2	2.3	2.4	0.7	8.4	11.6	4.2	10.1	13	5.1	3.7
Vehicles Exited	29	324	26	19	270	29	10	30	12	30	39	83	901
Hourly Exit Rate	29	324	26	19	270	29	10	30	12	30	39	83	901
Input Volume	30	330	20	20	270	30	10	30	10	30	40	90	909
% of Volume	97	98	130	95	100	97	100	101	120	101	98	92	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.8	0.9	1	0.7	0.7	0.6	3.8	0.4	0.4	2.1	0.4	2	1
Total Del/Veh (s)	50.3	24.8	15.1	42.6	23	10.3	30.4	25.7	17.5	32.8	25.3	13.4	24.7
Vehicles Exited	88	746	39	29	635	70	96	51	61	95	40	116	2066
Hourly Exit Rate	88	746	39	29	635	70	96	51	61	95	40	116	2066
Input Volume	90	750	40	30	640	70	90	50	60	90	40	110	2060
% of Volume	98	99	98	96	99	100	106	103	102	105	101	106	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.9	5.3	4.2	0.4	0.2	0.2	2.1	0.9	2	0.2	0.1	0.2	1.6
Total Del/Veh (s)	203	128	121	86.8	65.6	14.7	58.8	59	14.8	83.1	58	50.6	74.5
Vehicles Exited	93	622	66	138	523	412	99	373	195	364	362	68	3315
Hourly Exit Rate	93	622	66	138	523	412	99	373	195	364	362	68	3315
Input Volume	100	640	70	140	520	410	100	370	200	360	360	70	3340
% of Volume	93	97	94	99	101	101	99	101	98	101	101	97	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	2	0	0	0	0	0	0	0	0	0	0	2

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.4	0.2	0.3	0.4	0.2	0.2	2	0.7	2	0.2	0.3	0.3	0.5
Total Del/Veh (s)	43.1	22.5	17.6	41.4	21.7	16.9	40.9	27.2	10.7	44.2	31.9	11.9	24.5
Vehicles Exited	112	730	188	104	748	48	171	171	170	48	119	100	2709
Hourly Exit Rate	112	730	188	104	748	48	171	171	170	48	119	100	2709
Input Volume	110	720	180	110	740	50	170	170	170	50	120	100	2690
% of Volume	102	101	104	95	101	96	100	100	100	96	99	100	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.3	3.9	0.5	3.9	3.2	0.8	3.4	3.2	1.2	3.2	1.4
Total Del/Veh (s)	38.5	28.2	6.9	42.5	32.7	7.6	40.1	31.4	19.5	42.1	18.7	7.9	25.7
Vehicles Exited	126	170	56	9	43	120	32	706	10	143	521	138	2074
Hourly Exit Rate	126	170	56	9	43	120	32	706	10	143	521	138	2074
Input Volume	130	170	60	10	40	120	30	700	10	140	520	140	2070
% of Volume	97	100	93	88	107	100	107	101	98	102	100	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.6	0.8	3.6	2.3	0.2	0.2	3.2	0.2	0.2	3	0.3	3.1	1.3
Total Del/Veh (s)	24.7	18.8	4.5	31.2	30.2	10	29.7	11.5	5.4	31.7	15.9	6.5	14.8

Vehicles Exited	155	97	119	21	62	11	68	535	31	9	406	194	1708
Hourly Exit Rate	155	97	119	21	62	11	68	535	31	9	406	194	1708
Input Volume	160	100	110	20	60	10	70	530	30	10	410	190	1701
% of Volume	97	97	108	104	103	107	97	101	104	88	99	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	245	245
Hourly Exit Rate	245	245
Input Volume	239	239
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

26: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	697	697
Hourly Exit Rate	697	697
Input Volume	690	690
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

27: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	456	456
Hourly Exit Rate	456	456
Input Volume	451	451

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

28: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	485	485
Hourly Exit Rate	485	485
Input Volume	480	480
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

29: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	834	834
Hourly Exit Rate	834	834
Input Volume	830	830
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

30: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	550	550
Hourly Exit Rate	550	550
Input Volume	560	560
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

31: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.6	0.2
Total Del/Veh (s)	6.1	3	4.8
Vehicles Exited	972	673	1645
Hourly Exit Rate	972	673	1645
Input Volume	970	680	1650
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

32: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	408	408
Hourly Exit Rate	408	408
Input Volume	410	410
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

33: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.6	7.6
Vehicles Exited	1613	1613
Hourly Exit Rate	1613	1613
Input Volume	1590	1590
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

34: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6	6
Vehicles Exited	737	737
Hourly Exit Rate	737	737
Input Volume	730	730
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

35: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	1183	1183
Hourly Exit Rate	1183	1183
Input Volume	1200	1200
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

37: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.1	6.1
Vehicles Exited	953	953
Hourly Exit Rate	953	953
Input Volume	950	950
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

38: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2

Vehicles Exited	506	506
Hourly Exit Rate	506	506
Input Volume	509	509
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

39: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.3	8.3
Vehicles Exited	568	568
Hourly Exit Rate	568	568
Input Volume	570	570
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

40: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	925	925
Hourly Exit Rate	925	925
Input Volume	920	920
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	946	946
Hourly Exit Rate	946	946
Input Volume	940	940

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.4	7.4
Vehicles Exited	757	757
Hourly Exit Rate	757	757
Input Volume	750	750
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.7	10.7
Vehicles Exited	876	876
Hourly Exit Rate	876	876
Input Volume	880	880
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.9	7.9
Vehicles Exited	816	816
Hourly Exit Rate	816	816
Input Volume	820	820
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	253	253
Hourly Exit Rate	253	253
Input Volume	250	250
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3
Vehicles Exited	331	331
Hourly Exit Rate	331	331
Input Volume	330	330
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	410	410
Hourly Exit Rate	410	410
Input Volume	410	410
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	325	325
Hourly Exit Rate	325	325
Input Volume	320	320
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	208	208
Hourly Exit Rate	208	208
Input Volume	210	210
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	107	107
Hourly Exit Rate	107	107
Input Volume	110	110
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.2	7.2

Vehicles Exited	1243	1243
Hourly Exit Rate	1243	1243
Input Volume	1240	1240
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	589	589
Hourly Exit Rate	589	589
Input Volume	590	590
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	1216	1216
Hourly Exit Rate	1216	1216
Input Volume	1230	1230
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

54: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.1	5.1
Vehicles Exited	554	554
Hourly Exit Rate	554	554
Input Volume	560	560

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

55: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	739	739
Hourly Exit Rate	739	739
Input Volume	740	740
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

58: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.1	7.1
Vehicles Exited	1337	1337
Hourly Exit Rate	1337	1337
Input Volume	1340	1340
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

59: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3
Vehicles Exited	1867	1867
Hourly Exit Rate	1867	1867
Input Volume	1850	1850
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	446	446
Hourly Exit Rate	446	446
Input Volume	450	450
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.9	6.9
Vehicles Exited	877	877
Hourly Exit Rate	877	877
Input Volume	870	870
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

63: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	80	80
Hourly Exit Rate	80	80
Input Volume	80	80
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

64: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	618	618
Hourly Exit Rate	618	618
Input Volume	610	610
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.4	8.4
Vehicles Exited	776	776
Hourly Exit Rate	776	776
Input Volume	790	790
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	250	250
Hourly Exit Rate	250	250
Input Volume	260	260
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8

Vehicles Exited	392	392
Hourly Exit Rate	392	392
Input Volume	390	390
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	237	237
Hourly Exit Rate	237	237
Input Volume	240	240
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	155	155
Hourly Exit Rate	155	155
Input Volume	159	159
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	265	265
Hourly Exit Rate	265	265
Input Volume	270	270

% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

72: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	81	81
Hourly Exit Rate	81	81
Input Volume	80	80
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

73: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	755	755
Hourly Exit Rate	755	755
Input Volume	750	750
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

74: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	500	500
Hourly Exit Rate	500	500
Input Volume	511	511
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

75: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	564	564
Hourly Exit Rate	564	564
Input Volume	570	570
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	992	992
Hourly Exit Rate	992	992
Input Volume	1000	1000
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	324	324
Hourly Exit Rate	324	324
Input Volume	320	320
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	138	138
Hourly Exit Rate	138	138
Input Volume	140	140
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.3	7.3
Vehicles Exited	904	904
Hourly Exit Rate	904	904
Input Volume	900	900
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.6	10.6
Vehicles Exited	849	849
Hourly Exit Rate	849	849
Input Volume	840	840
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1

Vehicles Exited	547	547
Hourly Exit Rate	547	547
Input Volume	540	540
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	703	703
Hourly Exit Rate	703	703
Input Volume	700	700
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.9	0	0.5
Total Del/Veh (s)	4.6	3.6	4.2
Vehicles Exited	841	615	1456
Hourly Exit Rate	841	615	1456
Input Volume	830	610	1440
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	363	363
Hourly Exit Rate	363	363
Input Volume	370	370

% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

92: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	367	367
Hourly Exit Rate	367	367
Input Volume	370	370
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	573	573
Hourly Exit Rate	573	573
Input Volume	580	580
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	83	83
Hourly Exit Rate	83	83
Input Volume	80	80
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	88	88
Hourly Exit Rate	88	88
Input Volume	89	89
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	614	614
Hourly Exit Rate	614	614
Input Volume	610	610
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

100: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.1	5.1
Vehicles Exited	566	566
Hourly Exit Rate	566	566
Input Volume	580	580
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

101: SR 219 (Kiernan Ave)#1 Performance by movement

Movement	EBT	WBT	NBR	SBR	All
Denied Del/Veh (s)	0	0	0.2	0.1	0
Total Del/Veh (s)	11.4	4.9	7.4	2.3	8.3
Vehicles Exited	1072	887	105	38	2102
Hourly Exit Rate	1072	887	105	38	2102
Input Volume	1070	894	110	40	2113
% of Volume	100	99	95	96	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

102: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.2	8.2
Vehicles Exited	971	971
Hourly Exit Rate	971	971
Input Volume	970	970
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

103: Claribel Rd Performance by movement

Movement	EBT	EBR	WBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.1	0
Total Del/Veh (s)	6.6	4.4	6.1	3.9	6.3
Vehicles Exited	839	79	728	9	1655
Hourly Exit Rate	839	79	728	9	1655
Input Volume	854	80	738	10	1682
% of Volume	98	98	99	88	98
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6

Vehicles Exited	964	964
Hourly Exit Rate	964	964
Input Volume	960	960
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	816	816
Hourly Exit Rate	816	816
Input Volume	820	820
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	1127	1127
Hourly Exit Rate	1127	1127
Input Volume	1110	1110
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	584	584
Hourly Exit Rate	584	584
Input Volume	579	579

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	650	650
Hourly Exit Rate	650	650
Input Volume	640	640
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

109: Claribel Rd Performance by movement

Movement	EBT	EBR	WBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.1	0
Total Del/Veh (s)	6	5.1	5.3	2.5	5.6
Vehicles Exited	760	81	624	29	1494
Hourly Exit Rate	760	81	624	29	1494
Input Volume	771	80	624	30	1505
% of Volume	99	101	100	97	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.2	6.2
Vehicles Exited	1227	1227
Hourly Exit Rate	1227	1227
Input Volume	1230	1230
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	908	908
Hourly Exit Rate	908	908
Input Volume	920	920
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.7	7.7
Vehicles Exited	637	637
Hourly Exit Rate	637	637
Input Volume	640	640
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	789	789
Hourly Exit Rate	789	789
Input Volume	790	790
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.8	5.8
Vehicles Exited	571	571
Hourly Exit Rate	571	571
Input Volume	570	570
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	558	558
Hourly Exit Rate	558	558
Input Volume	560	560
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	1017	1017
Hourly Exit Rate	1017	1017
Input Volume	1011	1011
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8

Vehicles Exited	565	565
Hourly Exit Rate	565	565
Input Volume	570	570
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.5	8.5
Vehicles Exited	689	689
Hourly Exit Rate	689	689
Input Volume	690	690
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

122: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	353	353
Hourly Exit Rate	353	353
Input Volume	360	360
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	215	215
Hourly Exit Rate	215	215
Input Volume	210	210

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

Total Network Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	46.4
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	42
Denied Entry Before	0
Denied Entry After	2

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Queuing an PM Peak Hour
Year 2022 N ########

Intersection: 1: Carver & SR 219 (Kiernan Ave)

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	80	149	151	154	83	86	146	177	209	52	117	146	109	114
Average Queue (ft)	28	76	82	73	37	28	63	85	101	12	45	58	34	43
95th Queue (ft)	63	127	135	133	69	67	123	154	177	38	93	114	80	89
Link Distance (ft)		3294	3294	3294			2554	2554	2554			2431		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	530				410	580				530	330		300	
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T	R	L	TR
Maximum Queue (ft)	115	233	256	251	154	241	150	188	204	42	297	165	124	109	184
Average Queue (ft)	38	131	142	137	66	132	64	78	92	8	157	70	51	43	87
95th Queue (ft)	88	208	217	211	122	217	125	150	162	28	254	135	99	88	154
Link Distance (ft)		2554	2554	2554			3622	3622	3622			3683			3958
Upstream Blk Time (%)															
Queuing Penalty (veh)															
Storage Bay Dist (ft)	715				355	660				415	400		400	300	
Storage Blk Time (%)															
Queuing Penalty (veh)															

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	300	414	124	447	220	154	272	263	302	374	293
Average Queue (ft)	171	192	18	245	92	44	150	138	177	182	142
95th Queue (ft)	287	380	71	409	230	109	240	223	294	320	254
Link Distance (ft)		5459		491			464	464		5159	
Upstream Blk Time (%)				1							
Queuing Penalty (veh)				6							
Storage Bay Dist (ft)	250		90		160	185			290		800
Storage Blk Time (%)	4	2	0	41	0		5		4	0	
Queuing Penalty (veh)	16	4	1	50	0		2		24	2	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	132	243	286	230
Average Queue (ft)	57	104	107	62
95th Queue (ft)	113	190	239	180
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	390	188	92	197
Average Queue (ft)	206	72	13	85
95th Queue (ft)	352	146	140	162
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		530		
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	202	201	188	216	184	233	138	140	250	241	283	340	318	150	108	198	214	134
Average Queue (ft)	106	103	89	110	72	97	59	63	128	136	163	179	149	65	40	113	117	59
95th Queue (ft)	179	173	162	190	144	183	114	117	211	218	286	310	276	120	90	176	186	105
Link Distance (ft)			1459	1459	1459				2547	2547		1946	1946			520	520	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	775	775				660	975	975			260			540	420			535
Storage Blk Time (%)											6	0	0					
Queuing Penalty (veh)											21	1	0					

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	185	410	728	754	769	410	190	221	300	284	227	215	248	283	333	296	318	242	320	345	395	398	384
Average Queue (ft)	83	230	446	468	479	274	79	114	191	178	132	83	137	165	176	196	179	65	174	202	255	259	252
95th Queue (ft)	152	479	734	760	791	537	176	199	266	252	216	181	227	257	273	273	272	163	276	299	360	366	361
Link Distance (ft)			4932	4932	4932				1965	1965	1965				3853	3853	3853				1774	1774	1774
Upstream Blk Time (%)																							
Queuing Penalty (veh)																							

Storage Bay Dist (ft)	350	350			350	300	300			350	225	225			200	500	500	
Storage Blk Time (%)		0	27	32	0	0	1	0			0	2	1	5	0			0
Queuing Penalty (veh)		0	63	90	0	0	1	0			1	7	5	7	0			0

Intersection: 8: Coffee Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	L	T	T	L	T	L	T
Maximum Queue (ft)	157	207	214	163	206	220	110	210	68	164
Average Queue (ft)	79	95	110	73	97	111	48	107	16	77
95th Queue (ft)	138	168	183	133	171	185	93	176	49	135
Link Distance (ft)		2570	2570		2632	2632		1530		1977
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	320			420			260		110	
Storage Blk Time (%)			0			0		0		3
Queuing Penalty (veh)			0			0		0		4

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	214	277	336	294	191	151	124	276	256	165	181	226	220	208	140	168	137	124
Average Queue (ft)	100	154	199	161	69	68	56	180	144	48	65	126	113	102	65	79	36	55
95th Queue (ft)	206	241	293	246	161	122	105	259	236	122	153	195	190	181	117	134	91	95
Link Distance (ft)			1407	1407	1407			1696	1696	1696			1262	1262		1270	1270	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)		0	0					0					0					
Queuing Penalty (veh)		0	1					0					0					

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	161	303	318	229	246	148	180	230	216	324	141	202	133
Average Queue (ft)	72	165	173	130	143	66	83	114	85	164	50	86	37
95th Queue (ft)	132	265	277	211	218	124	157	201	167	279	106	160	93

Link Distance (ft)		2722	2722			3152			2570	2570		2170
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	525			625	625		675	200			150		75
Storage Blk Time (%)								1	0		1	15	0
Queuing Penalty (veh)								2	0		1	17	0

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	L	T	R	L	T	R
Maximum Queue (ft)	394	279	245	351	399	351	229	910	300	296	467	114
Average Queue (ft)	206	135	140	200	153	116	95	379	182	70	250	49
95th Queue (ft)	361	231	213	343	361	293	226	741	364	201	426	88
Link Distance (ft)		2526	2526		1889	1889		1580			3994	3994
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	410			310			170		240	315		
Storage Blk Time (%)	1	0		8	0	0	0	34	0		6	
Queuing Penalty (veh)	2	0		15	0	0	1	119	0		4	

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	120	143	199	181	68	177	162	77	50	196	220	228	219	95	225	237	79
Average Queue (ft)	20	71	111	62	20	101	67	12	15	87	128	135	122	27	137	129	31
95th Queue (ft)	63	125	178	146	52	158	134	50	44	162	191	206	200	68	211	208	62
Link Distance (ft)		1356	1356	1356		1329	1329	1329			2052	2052	2052		2174	2174	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)																0	
Queuing Penalty (veh)																0	

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R

Maximum Queue (ft)	491	652	134	891	210	251	414	235	584	160
Average Queue (ft)	223	356	45	496	123	62	209	183	264	98
95th Queue (ft)	440	610	116	959	260	171	360	271	564	190
Link Distance (ft)		3468		3304			1227		1689	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	775		75		150	250		175		100
Storage Blk Time (%)		1	6	61	0	0	8	14	25	4
Queuing Penalty (veh)		1	30	92	1	0	5	51	102	16

Intersection: 14: Roselle & Claribel

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	360	1419	349	612	360	1260	245	441
Average Queue (ft)	164	853	167	294	267	688	63	239
95th Queue (ft)	398	1557	331	551	437	1568	167	402
Link Distance (ft)		2078		2824		2313		2478
Upstream Blk Time (%)		0				2		
Queuing Penalty (veh)		0				0		
Storage Bay Dist (ft)	300		300		300		300	
Storage Blk Time (%)	0	53	6	7	5	32		6
Queuing Penalty (veh)	0	37	25	9	28	62		3

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	576	160	231	243	171	178
Average Queue (ft)	280	96	124	80	64	77
95th Queue (ft)	498	196	205	191	132	149
Link Distance (ft)	1822			1982	1573	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	200			150
Storage Blk Time (%)	30	0	2	0	0	1
Queuing Penalty (veh)	52	2	8	0	1	1

Intersection: 16: Claus Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	209	361	135	210	522	132	286	779	210	239	483	77
Average Queue (ft)	94	153	39	165	190	20	39	315	142	39	220	31
95th Queue (ft)	183	283	119	239	433	73	152	655	263	144	387	63
Link Distance (ft)		1949			2758			2156			2402	2402
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		75	150		75	250		150	250		
Storage Blk Time (%)	1	33	0	22	18	0		27	1		8	
Queuing Penalty (veh)	3	53	1	51	56	0		90	5		2	

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	217	41	428
Average Queue (ft)	84	2	148
95th Queue (ft)	165	19	341
Link Distance (ft)	2004	5483	1916
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Bentley & Claribel

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	61	43	74	64	113	65
Average Queue (ft)	6	4	27	13	41	38
95th Queue (ft)	31	23	58	43	81	61
Link Distance (ft)	2720	2487	1498		1216	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			7	1	11	8

Queuing Penalty (veh)	1	1	11	6

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	309	622	236	234	599	260	150	132	125	136	115
Average Queue (ft)	85	262	27	32	285	53	62	57	58	30	43
95th Queue (ft)	211	495	135	113	494	189	118	111	104	87	88
Link Distance (ft)		4920			2614			1261		1636	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250		200	250		200	250		100		75
Storage Blk Time (%)		11	0		14				2	0	2
Queuing Penalty (veh)		14	0		14				3	1	2

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	1990	260	360	989	678	387	396	291	812	636
Average Queue (ft)	94	1164	251	216	523	156	218	225	101	437	324
95th Queue (ft)	130	2497	293	415	918	398	340	347	223	753	565
Link Distance (ft)		2754			2542	2542		1985		5862	5862
Upstream Blk Time (%)		7									
Queuing Penalty (veh)		0									
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	70	42	29	0	32			4	0		
Queuing Penalty (veh)	495	208	120	0	45			18	0		

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	235	338	346	201	283	307	127	177	244	110	110	194	135
Average Queue (ft)	79	180	193	74	156	177	43	79	103	70	40	77	47
95th Queue (ft)	166	294	308	145	257	280	92	134	197	123	83	147	97
Link Distance (ft)		1983	1983		2687	2687			1876			2914	
Upstream Blk Time (%)													

Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)		2		0	2		0	0	28	7	1	6	0
Queuing Penalty (veh)		2		0	3		0	0	96	25	1	9	1

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	215	246	88	58	104	106	126	371	341	218	245	229
Average Queue (ft)	96	96	27	10	33	44	31	210	172	103	119	90
95th Queue (ft)	176	187	69	40	79	83	90	316	291	186	205	188
Link Distance (ft)		5669			2158			1499			1983	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	225		225	400		300	400		300
Storage Blk Time (%)	0	1						1	0		0	0
Queuing Penalty (veh)	1	1						3	0		0	0

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	176	112	71	76	122	128	176	155	51	185	159	104
Average Queue (ft)	81	41	27	20	47	46	87	61	9	100	61	50
95th Queue (ft)	150	87	55	56	94	96	151	124	35	162	130	87
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)	0				0							
Queuing Penalty (veh)	0				0							

Intersection: 31: Bend

Movement	NB	NB
Directions Served	T	
Maximum Queue (ft)	138	14
Average Queue (ft)	8	1

95th Queue (ft)	72	10
Link Distance (ft)	520	520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 90: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	114	47
Average Queue (ft)	6	2
95th Queue (ft)	101	48
Link Distance (ft)	586	586
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 101: SR 219 (Kiernan Ave)#1

Movement	NB	SB
Directions Served	R	R
Maximum Queue (ft)	108	48
Average Queue (ft)	41	10
95th Queue (ft)	83	37
Link Distance (ft)	314	264
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 103: Claribel Rd

Movement	SB

Directions Served	R
Maximum Queue (ft)	37
Average Queue (ft)	4
95th Queue (ft)	20
Link Distance (ft)	335
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 109: Claribel Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	49
Average Queue (ft)	9
95th Queue (ft)	32
Link Distance (ft)	264
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary
Network wide Queuing Penalty: 2338

SimTraffic Performance Report
2022 Alternative 1A AM Peak Hour
9/3/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.3	0.1	1.1	0	0	0	2	0.4	0.4	2.2	0.2	0.2	0.3
Total Del/Veh (s)	34.6	24	8.1	38.8	21.6	10.2	33.7	18	6.8	35.4	31.1	15.3	24
Vehicles Exited	40	655	116	190	997	54	177	62	21	19	121	40	2492
Hourly Exit Rate	40	655	116	190	997	54	177	62	21	19	121	40	2492
Input Volume	40	640	110	190	990	50	180	60	20	20	120	40	2461
% of Volume	101	102	105	100	101	108	98	103	104	94	101	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	36.6	22.8	15.7	26.9	12.9	3.7	21.7	17.4	2.2	27	22	8.1	17.4
Vehicles Exited	29	460	207	377	1091	22	90	69	116	27	100	53	2641
Hourly Exit Rate	29	460	207	377	1091	22	90	69	116	27	100	53	2641
Input Volume	30	452	200	390	1090	20	90	70	120	30	100	50	2641
% of Volume	97	102	104	97	100	109	100	98	97	91	100	106	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	0	0	0	0	0	0	0.3	0.1	0.1	0.1
Total Del/Veh (s)	41.5	18.4	8.1	49.7	32.2	9.1	48.8	30.6	18	46.7	29.1	22.2	28.8
Vehicles Exited	128	71	38	8	370	129	21	287	10	69	412	205	1748
Hourly Exit Rate	128	71	38	8	370	129	21	287	10	69	412	205	1748
Input Volume	130	70	40	10	370	130	20	290	10	70	410	200	1752
% of Volume	98	101	96	78	100	99	104	99	98	98	100	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	15.9	5.6	8.2	0.1	12.6	11.3
Vehicles Exited	256	11	307	73	459	1106
Hourly Exit Rate	256	11	307	73	459	1106
Input Volume	260	10	310	70	462	1113
% of Volume	99	107	99	104	99	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	0.7	0.7	0	0.5
Total Del/Veh (s)	10.4	3.8	14.9	4.5	3.2	7.9
Vehicles Exited	140	12	254	505	73	984
Hourly Exit Rate	140	12	254	505	73	984
Input Volume	144	10	260	510	70	994
% of Volume	98	117	98	99	104	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	15.4	0.3	17.8	19	20.2	19.1	11.8	4.3	17.4	13.6	7.4	14.3
Vehicles Exited	29	1	99	249	200	90	277	89	38	499	212	1783
Hourly Exit Rate	29	1	99	249	200	90	277	89	38	499	212	1783
Input Volume	30	1	100	260	190	90	281	90	40	501	210	1791
% of Volume	97	133	99	96	105	100	99	99	96	100	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.1	0.4	0.1	0.2	0.3	0.1	0.1	2.9	0.1	0.2	0.2
Total Del/Veh (s)	46.4	30.2	6.6	47.8	35.2	11.2	48.1	31.2	7.9	41.5	28.5	13.2	30.5
Vehicles Exited	263	604	179	185	929	282	194	667	150	93	614	141	4301
Hourly Exit Rate	263	604	179	185	929	282	194	667	150	93	614	141	4301
Input Volume	260	600	180	190	920	280	190	660	150	100	620	140	4290
% of Volume	101	101	99	97	101	101	102	101	100	93	99	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

8: Coffee Rd & NCC SPUI Performance by movement

Movement	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	21	11.9	18.6	21.6	18.9	5.1	2.4	24.3	13.7	8.5	12.7
Vehicles Exited	40	51	299	20	250	172	184	21	273	262	1572
Hourly Exit Rate	40	51	299	20	250	172	184	21	273	262	1572
Input Volume	40	50	300	20	250	171	180	20	271	260	1562
% of Volume	101	102	100	99	100	101	102	104	101	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3	0.1	2.9	1.1	0.1	0.1	2.7	0.1	0.1	3	0.1	3.1	1
Total Del/Veh (s)	36.4	20.4	6.8	35.9	26.9	9.2	30.7	14.9	7.4	38.3	30.5	8.8	22.8
Vehicles Exited	138	373	217	72	805	60	363	419	62	28	390	216	3143
Hourly Exit Rate	138	373	217	72	805	60	363	419	62	28	390	216	3143
Input Volume	150	380	220	70	800	60	360	410	60	30	390	210	3140
% of Volume	92	98	99	102	101	100	101	102	103	94	100	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.9	0.1	0.1	0.3	0.1	0.1	1.6	0.2	0.1	1.6	0.3	1.7	0.5
Total Del/Veh (s)	46.3	11.6	3.9	40.6	10.7	7.2	39.6	29.5	30.2	42.8	37.4	7.2	21

Vehicles Exited	26	163	22	138	487	40	124	52	75	49	55	101	1332
Hourly Exit Rate	26	163	22	138	487	40	124	52	75	49	55	101	1332
Input Volume	30	160	20	140	490	40	120	50	70	50	60	100	1330
% of Volume	87	102	109	98	99	101	103	104	107	98	92	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.4	0.2	0.3	0.3	3.3	0	0	0	0.3	0.1	0.1	0.4
Total Del/Veh (s)	22	31.7	6.9	23.1	35.7	3.4	34.1	17.9	6.4	35.6	19.8	13.6	18.3
Vehicles Exited	80	28	79	392	9	51	32	215	230	41	435	43	1635
Hourly Exit Rate	80	28	79	392	9	51	32	215	230	41	435	43	1635
Input Volume	80	30	80	390	10	50	30	210	230	40	440	40	1630
% of Volume	100	94	98	101	88	102	108	102	100	103	99	108	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	3.4	3.6	0.1	3.8	0.3	0.1	0.1	2.6	0.3	2.9	0.8
Total Del/Veh (s)	47.3	21.6	2	37.6	31.6	3.4	32.8	8.4	2.6	39	30	6.8	23.3
Vehicles Exited	159	99	206	11	176	12	560	356	21	9	621	278	2508
Hourly Exit Rate	159	99	206	11	176	12	560	356	21	9	621	278	2508
Input Volume	160	100	200	10	180	10	550	350	20	10	600	270	2460
% of Volume	100	99	103	107	98	117	102	102	104	88	104	103	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.2	0.3	0.3	3.6	0.4	0.4	2.1	0.7	2.2	0.9
Total Del/Veh (s)	33.3	18.4	7.6	42.6	30.5	9.7	23.8	30.6	20.6	26.9	27.6	7.4	22.8
Vehicles Exited	118	90	23	20	193	162	47	182	42	138	131	181	1327
Hourly Exit Rate	118	90	23	20	193	162	47	182	42	138	131	181	1327
Input Volume	120	90	20	20	190	170	50	190	40	140	130	180	1341

% of Volume	98	100	114	99	101	95	94	96	106	98	101	101	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.6	3.8	4.1	0.3	4	0	0	0	0	0	0	0.9
Total Del/Veh (s)	10.4	12.1	4.9	11.5	13.7	2.1	4.4	2.5	1.5	2.8	0.6	0.1	3.5
Vehicles Exited	30	50	142	8	48	33	20	263	20	21	357	12	1004
Hourly Exit Rate	30	50	142	8	48	33	20	263	20	21	357	12	1004
Input Volume	30	50	140	10	50	30	20	270	20	20	360	10	1012
% of Volume	101	100	101	78	96	111	99	97	99	104	99	117	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.1	4	0.1
Total Del/Veh (s)	6.8	3.1	8.2	2	15.1	3.1	4.6
Vehicles Exited	104	121	69	346	56	10	706
Hourly Exit Rate	104	121	69	346	56	10	706
Input Volume	100	120	70	340	60	10	700
% of Volume	104	101	98	102	93	98	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	27.7	21.5	4.2	28.8	18.4	3	35.3	19	8.2	30.6	29.4	11.8	20.4
Vehicles Exited	141	899	147	246	813	42	231	110	228	52	162	233	3304
Hourly Exit Rate	141	899	147	246	813	42	231	110	228	52	162	233	3304
Input Volume	150	891	150	240	820	40	230	110	230	50	160	240	3311
% of Volume	94	101	98	102	99	106	100	100	99	104	101	97	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.1	0.3	0.2	0.1	0.2	0.2	1.9	0.1	0.1	0	0	0.1	0.7
Total Del/Veh (s)	2	1.4	0.5	1.8	1.9	1.1	6.1	6.8	3	5.7	8.4	1.7	2.5
Vehicles Exited	118	47	11	9	118	40	10	10	11	38	10	10	432
Hourly Exit Rate	118	47	11	9	118	40	10	10	11	38	10	10	432
Input Volume	120	50	10	10	120	40	10	10	10	40	11	10	442
% of Volume	98	94	107	88	98	101	98	98	107	96	89	98	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.1	4.3	0.1	0.2	4	0.4
Total Del/Veh (s)	2.5	1	0.9	1.3	1.5	0.7	5	9.3	2.2	4.9	9.2	3	2.3
Vehicles Exited	8	97	11	17	218	20	20	8	10	9	28	20	466
Hourly Exit Rate	8	97	11	17	218	20	20	8	10	9	28	20	466
Input Volume	10	100	10	20	220	20	20	10	10	10	30	20	482
% of Volume	78	97	107	84	99	99	99	78	98	88	94	99	97
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.3	0.3	0.3	3.9	0.4	0.3	2.1	0.5	2.1	0.8
Total Del/Veh (s)	19.5	9.2	4.6	22.4	12.1	5.4	16	12.4	5.2	17.2	12.5	4.8	11.2
Vehicles Exited	71	321	52	38	256	72	85	61	20	109	61	142	1288
Hourly Exit Rate	71	321	52	38	256	72	85	61	20	109	61	142	1288
Input Volume	70	330	50	40	260	70	90	60	20	110	60	140	1300
% of Volume	101	97	104	96	99	102	95	102	99	99	102	101	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.4	0.4	0.2	0.1	0.1	1.7	0.6	1.8	0.1	0.1	0.1	0.4
Total Del/Veh (s)	48.2	23.4	15.1	38.3	31	8.3	32.1	32.3	6.9	35.9	31.9	25.7	27.9
Vehicles Exited	109	236	60	9	167	270	98	288	43	259	382	77	1998
Hourly Exit Rate	109	236	60	9	167	270	98	288	43	259	382	77	1998
Input Volume	110	230	60	10	170	270	100	290	40	260	390	70	2000
% of Volume	99	103	100	88	98	100	98	99	108	100	98	110	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.8	0.1	0.1	0.2	0.1	0.1	2	0.7	1.9	0.3	0.3	0.3	0.7
Total Del/Veh (s)	30.6	18.3	8.1	26.4	13.1	4.5	25.7	18.2	5.2	30.3	25.1	8.3	18.3
Vehicles Exited	49	176	152	148	148	42	260	108	84	32	138	101	1438
Hourly Exit Rate	49	176	152	148	148	42	260	108	84	32	138	101	1438
Input Volume	50	170	150	150	150	40	260	110	80	30	150	100	1438
% of Volume	98	104	102	99	99	106	100	98	105	108	92	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.2	3.6	0.7	3.7	3.3	1.6	3.6	0	0	0	1.2
Total Del/Veh (s)	30.4	30.3	5	32.1	26.2	8.2	33	20.2	9.5	30.4	16.1	11.7	17.9
Vehicles Exited	30	31	31	9	76	235	18	559	12	89	497	69	1656
Hourly Exit Rate	30	31	31	9	76	235	18	559	12	89	497	69	1656
Input Volume	30	30	30	10	70	240	20	560	10	90	500	70	1660
% of Volume	101	104	104	88	108	98	89	100	117	99	99	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4	0.4	3.9	2.3	0.3	0.2	3.2	0.2	0.2	3.2	0.2	3.2	0.6
Total Del/Veh (s)	28.9	21.9	4.4	29.5	25.2	13.3	26.3	10.7	4.2	34.8	15.7	5.9	15.7

Vehicles Exited	32	42	50	27	173	14	59	465	31	8	513	30	1444
Hourly Exit Rate	32	42	50	27	173	14	59	465	31	8	513	30	1444
Input Volume	30	40	50	30	170	10	60	460	30	10	520	30	1439
% of Volume	108	106	100	91	102	137	98	101	104	78	99	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	14.8	0.3	20.1	16.9	20	19.7	5.9	5.1	21.7	8.4	6.6	8.6
Vehicles Exited	49	1	31	174	33	30	394	404	28	542	340	2026
Hourly Exit Rate	49	1	31	174	33	30	394	404	28	542	340	2026
Input Volume	50	1	30	180	30	30	390	400	30	540	340	2020
% of Volume	98	133	104	97	111	101	101	101	94	100	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

25: Roselle & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	17.1	0.1	13.4	16.3	0	14.7	16.4	6.3	3.6	20.5	10.9	4	10.6
Vehicles Exited	10	1	94	154	1	38	151	255	191	39	418	51	1403
Hourly Exit Rate	10	1	94	154	1	38	151	255	191	39	418	51	1403
Input Volume	10	1	90	150	1	40	150	260	190	40	421	50	1402
% of Volume	98	100	105	103	133	96	101	98	100	98	99	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

26: Crane Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.3	0.1	0.1	0
Total Del/Veh (s)	16.2	6.8	1	27.4	18.1	4.3	29.2	25	3.7	28.8	22.3	6.3	11.2
Vehicles Exited	476	679	10	40	406	10	9	28	80	29	28	681	2476
Hourly Exit Rate	476	679	10	40	406	10	9	28	80	29	28	681	2476
Input Volume	480	680	10	40	411	10	10	30	80	30	30	680	2491

% of Volume	99	100	98	101	99	98	88	94	100	97	94	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

27: Albers Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	23.6	16	3.8	28.1	27.2	9.1	48.4	24.2	10.3	37.9	18	3.3	19.4
Vehicles Exited	570	180	40	218	168	39	8	583	236	9	396	278	2725
Hourly Exit Rate	570	180	40	218	168	39	8	583	236	9	396	278	2725
Input Volume	570	180	40	220	171	40	10	592	230	10	400	280	2743
% of Volume	100	100	101	99	98	98	78	98	103	88	99	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0
Total Del/Veh (s)	4	7.4	3.9	4.3	6.4	2.1	4.2	3.9	2.9	3.2	3.5	2.9	5.3
Vehicles Exited	167	247	11	9	257	10	9	10	10	9	12	160	911
Hourly Exit Rate	167	247	11	9	257	10	9	10	10	9	12	160	911
Input Volume	160	250	10	10	260	10	10	10	10	10	11	160	913
% of Volume	105	99	107	88	99	98	88	98	98	88	107	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.1	0	0	0	0	0	0	0.2	0.2	0.2	0
Total Del/Veh (s)	4.8	8.5	1.3	5.1	7.7	2.9	1.7	5.6	3.7	5.6	6.1	3.6	6
Vehicles Exited	19	224	30	225	436	12	9	9	250	17	19	104	1354
Hourly Exit Rate	19	224	30	225	436	12	9	9	250	17	19	104	1354
Input Volume	20	220	30	230	430	10	10	10	250	20	20	100	1351
% of Volume	94	102	101	98	101	117	88	88	100	84	94	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4	0.1	0.2	3.9	0.2	0.1	0	0	0	1.4	0.1	1.4	0.2
Total Del/Veh (s)	16.4	15.4	4.1	16	13.9	3.7	14.5	4.5	2.9	18.3	5.6	2.5	6.2
Vehicles Exited	19	10	23	12	12	12	75	421	11	11	713	11	1330
Hourly Exit Rate	19	10	23	12	12	12	75	421	11	11	713	11	1330
Input Volume	20	10	20	10	10	10	80	411	10	10	720	10	1323
% of Volume	94	98	114	117	117	117	93	102	107	107	99	107	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.2	4	0.3	0.2	3.4	0.2	3.5	0	0	0	0.3
Total Del/Veh (s)	17.8	14.8	6.3	17.7	15.6	4.7	15.1	3.9	1.2	16.3	4.8	1.2	5.4
Vehicles Exited	17	10	18	26	8	35	28	397	23	25	707	34	1328
Hourly Exit Rate	19	11	20	29	9	39	28	397	23	28	786	38	1476
Input Volume	18	9	18	27	9	36	30	400	20	27	711	36	1341
% of Volume	104	120	110	108	96	109	94	99	114	104	110	106	110
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.7	0.1	0.1	0.1	0.1	0.1	0	0	0	3.2	0.2	3.4	0.2
Total Del/Veh (s)	8.7	12.4	4.1	10.4	9.6	2.7	4.8	1.8	1.3	1.4	0.6	1.6	1.6
Vehicles Exited	9	8	10	15	10	12	9	189	9	10	475	10	766
Hourly Exit Rate	10	9	11	17	11	13	10	210	10	11	528	11	851
Input Volume	9	9	9	18	9	9	9	189	9	9	468	9	759
% of Volume	108	96	120	91	120	145	108	111	108	120	113	120	112
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.2	0.2	0.2	4.1	0.2	0.1	3.3	0.2	3.3	0	0	0	0.3
Total Del/Veh (s)	20.1	15.3	3.8	15.5	16.7	5.3	3.6	0.5	0.1	6.3	2.5	2.4	2.3
Vehicles Exited	17	10	10	8	9	19	9	505	10	19	526	19	1161
Hourly Exit Rate	19	11	11	9	10	21	10	561	11	21	584	21	1290
Input Volume	18	9	9	9	9	18	9	504	9	18	523	18	1155
% of Volume	104	120	120	96	108	116	108	111	120	116	112	116	112
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.2	4	0.1	0.2	2.5	0.4	2.8	0	0	0	0.3
Total Del/Veh (s)	39.2	22.7	6.8	21.7	32.3	10.5	5.5	0.8	0.3	6.8	2.8	1.8	3.3
Vehicles Exited	25	9	26	18	10	20	9	697	8	7	655	9	1493
Hourly Exit Rate	28	10	29	20	11	22	10	774	9	8	728	10	1659
Input Volume	27	9	27	18	9	18	9	693	9	9	658	9	1496
% of Volume	104	108	108	110	120	122	108	112	96	84	111	108	111
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	2.3	0.2	0.2	0.2	0	0	0.1
Total Del/Veh (s)	11.9	4.9	4.1	1.7	13.9	5.1	4.9
Vehicles Exited	18	88	447	11	16	585	1165
Hourly Exit Rate	20	98	497	12	18	650	1294
Input Volume	18	90	450	9	18	576	1162
% of Volume	110	109	110	132	98	113	111
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	3.9	0.2	0.1	0	0	0	0.3
Total Del/Veh (s)	4.9	5.9	2.7	4.9	6.1	3	1.9	0.3	0.1	2.5	0.8	0.7	1.9

Vehicles Exited	8	8	9	8	9	11	9	50	8	7	38	9	174
Hourly Exit Rate	9	9	10	9	10	12	10	56	9	8	42	10	193
Input Volume	9	9	9	9	9	9	9	54	9	9	36	9	182
% of Volume	96	96	108	96	108	132	108	103	96	84	118	108	106
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.2	0.1	0.2	0	0	0	3.6	0.2	0.2	0.2
Total Del/Veh (s)	10.9	8.7	3.4	9.5	10.3	4.5	13.7	7	4.8	12.9	5	2.5	6.2
Vehicles Exited	25	10	35	75	9	9	7	169	86	17	298	38	778
Hourly Exit Rate	28	11	39	83	10	10	8	188	96	19	331	42	864
Input Volume	27	10	36	72	9	9	9	171	90	18	297	36	784
% of Volume	104	112	109	115	108	108	84	110	106	104	112	118	110
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.2	1.5	0	0	0.1
Total Del/Veh (s)	12.2	5.1	8	2.7	14	5.5	7
Vehicles Exited	49	173	338	26	77	422	1085
Hourly Exit Rate	54	192	376	29	86	469	1206
Input Volume	54	180	333	27	81	414	1089
% of Volume	101	107	113	108	106	113	111
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0.1	0.1	3.9	0.5	1.6
Total Del/Veh (s)	6.5	0.3	3.6	1	0.1	1.7	0.8	2.6
Vehicles Exited	17	2	151	10	20	143	9	352
Hourly Exit Rate	19	2	168	11	22	159	10	391
Input Volume	18	1	144	9	18	144	9	344

% of Volume	104	198	117	120	122	111	108	114
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

40: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	407	407
Hourly Exit Rate	452	452
Input Volume	397	397
% of Volume	114	114
Denied Entry Before	0	0
Denied Entry After	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	261	261
Hourly Exit Rate	290	290
Input Volume	252	252
% of Volume	115	115
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6	6
Vehicles Exited	483	483
Hourly Exit Rate	537	537
Input Volume	495	495
% of Volume	108	108
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.3	9.3
Vehicles Exited	600	600
Hourly Exit Rate	667	667
Input Volume	603	603
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.9	6.9
Vehicles Exited	1080	1080
Hourly Exit Rate	1200	1200
Input Volume	1080	1080
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	107	107
Hourly Exit Rate	119	119
Input Volume	108	108
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	178	178
Hourly Exit Rate	198	198
Input Volume	180	180
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	393	393
Hourly Exit Rate	437	437
Input Volume	404	404
% of Volume	108	108
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	117	117
Hourly Exit Rate	130	130
Input Volume	117	117
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6

Vehicles Exited	185	185
Hourly Exit Rate	206	206
Input Volume	180	180
% of Volume	114	114
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	136	136
Hourly Exit Rate	151	151
Input Volume	135	135
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.6	8.6
Vehicles Exited	1138	1138
Hourly Exit Rate	1264	1264
Input Volume	1125	1125
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	480	480
Hourly Exit Rate	533	533
Input Volume	486	486

% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	753	753
Hourly Exit Rate	837	837
Input Volume	729	729
% of Volume	115	115
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	2.8	3.5	3.1
Vehicles Exited	1061	988	2049
Hourly Exit Rate	1179	1098	2277
Input Volume	1053	990	2043
% of Volume	112	111	111
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	81	81
Hourly Exit Rate	90	90
Input Volume	81	81
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

56: NCC SPUI Performance by movement

Movement	NER	NER2	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	0.4	0.6
Vehicles Exited	424	118	542
Hourly Exit Rate	471	131	602
Input Volume	423	117	540
% of Volume	111	112	111
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

57: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	0.6		0.6	0.6
Vehicles Exited	424	0	115	539
Hourly Exit Rate	471	0	128	599
Input Volume	423	0	117	541
% of Volume	111	0	109	111
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

58: NCC SPUI Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.6	1.2	2.2
Vehicles Exited	1066	407	1473
Hourly Exit Rate	1184	452	1637
Input Volume	1081	405	1486
% of Volume	110	112	110
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	539	539
Hourly Exit Rate	599	599
Input Volume	540	540
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	545	545
Hourly Exit Rate	606	606
Input Volume	541	541
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	188	188
Hourly Exit Rate	209	209
Input Volume	189	189
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

62: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2	3.6	2.2

Vehicles Exited	856	94	950
Hourly Exit Rate	951	104	1056
Input Volume	865	90	954
% of Volume	110	116	111
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

63: NCC Performance by movement

Movement	EBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	5.7	0.6	1.7	2.9
Vehicles Exited	543	1	1341	1885
Hourly Exit Rate	603	1	1490	2094
Input Volume	540	1	1350	1891
% of Volume	112	165	110	111
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	240	240
Hourly Exit Rate	267	267
Input Volume	243	243
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	311	311
Hourly Exit Rate	346	346
Input Volume	306	306

% of Volume	113	113
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	116	116
Hourly Exit Rate	129	129
Input Volume	117	117
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	173	173
Hourly Exit Rate	192	192
Input Volume	171	171
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	109	109
Hourly Exit Rate	121	121
Input Volume	108	108
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	141	141
Hourly Exit Rate	157	157
Input Volume	135	135
% of Volume	116	116
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	379	379
Hourly Exit Rate	421	421
Input Volume	378	378
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	908	908
Hourly Exit Rate	1009	1009
Input Volume	900	900
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

72: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	1060	1060
Hourly Exit Rate	1178	1178
Input Volume	1071	1071
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.4	0	0.2
Total Del/Veh (s)	2.3	3.2	2.8
Vehicles Exited	396	433	829
Hourly Exit Rate	440	481	921
Input Volume	405	441	846
% of Volume	109	109	109
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.4	0.2
Total Del/Veh (s)	1.2	0.4	0.8
Vehicles Exited	295	353	648
Hourly Exit Rate	328	392	720
Input Volume	296	352	648
% of Volume	111	112	111
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

75: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5

Vehicles Exited	989	989
Hourly Exit Rate	1099	1099
Input Volume	990	990
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.1	6.1
Vehicles Exited	1089	1089
Hourly Exit Rate	1210	1210
Input Volume	1089	1089
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

77: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	1472	1472
Hourly Exit Rate	1636	1636
Input Volume	1485	1485
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	28	28
Hourly Exit Rate	31	31
Input Volume	28	28

% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	238	238
Hourly Exit Rate	264	264
Input Volume	234	234
% of Volume	113	113
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	74	74
Hourly Exit Rate	82	82
Input Volume	72	72
% of Volume	115	115
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.9	1.2	1.8
Vehicles Exited	856	206	1062
Hourly Exit Rate	951	229	1180
Input Volume	864	207	1071
% of Volume	110	111	110
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	75	75
Hourly Exit Rate	83	83
Input Volume	72	72
% of Volume	116	116
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	404	404
Hourly Exit Rate	449	449
Input Volume	414	414
% of Volume	108	108
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	2.6	1.5
Vehicles Exited	973	174	1147
Hourly Exit Rate	1081	193	1274
Input Volume	990	171	1161
% of Volume	109	113	110
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	0.2	1	0.8
Vehicles Exited	205	366	571
Hourly Exit Rate	228	407	634
Input Volume	198	360	558
% of Volume	115	113	114
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.4	0	0.3
Total Del/Veh (s)	0.5	2.4	0.9
Vehicles Exited	376	104	480
Hourly Exit Rate	418	116	533
Input Volume	369	99	468
% of Volume	113	117	114
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	432	432
Hourly Exit Rate	480	480
Input Volume	441	441
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4

Vehicles Exited	534	534
Hourly Exit Rate	593	593
Input Volume	540	540
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	459	459
Hourly Exit Rate	510	510
Input Volume	450	450
% of Volume	113	113
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.3	0	0.1
Total Del/Veh (s)	1.3	5.4	4
Vehicles Exited	341	642	983
Hourly Exit Rate	379	713	1092
Input Volume	342	648	990
% of Volume	111	110	110
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	231	231
Hourly Exit Rate	257	257
Input Volume	234	234

% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

92: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	106	106
Hourly Exit Rate	118	118
Input Volume	108	108
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	414	414
Hourly Exit Rate	460	460
Input Volume	432	432
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	50	50
Hourly Exit Rate	56	56
Input Volume	54	54
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	34	34
Hourly Exit Rate	38	38
Input Volume	37	37
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

96: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	2.1		1.6	2
Vehicles Exited	970	0	181	1151
Hourly Exit Rate	1078	0	201	1279
Input Volume	990	0	180	1170
% of Volume	109	0	112	109
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	86	86
Hourly Exit Rate	96	96
Input Volume	90	90
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	457	457
Hourly Exit Rate	508	508
Input Volume	458	458
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	71	71
Hourly Exit Rate	79	79
Input Volume	72	72
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

100: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	1145	1145
Hourly Exit Rate	1272	1272
Input Volume	1161	1161
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2	1.6	1.9

Vehicles Exited	1066	272	1338
Hourly Exit Rate	1184	302	1487
Input Volume	1080	270	1350
% of Volume	110	112	110
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	644	644
Hourly Exit Rate	716	716
Input Volume	648	648
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

103: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	1151	1151
Hourly Exit Rate	1279	1279
Input Volume	1170	1170
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	751	751
Hourly Exit Rate	834	834
Input Volume	756	756

% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	552	552
Hourly Exit Rate	613	613
Input Volume	558	558
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	1246	1246
Hourly Exit Rate	1384	1384
Input Volume	1233	1233
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	634	634
Hourly Exit Rate	704	704
Input Volume	639	639
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	195	195
Hourly Exit Rate	217	217
Input Volume	198	198
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

109: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	0.7	2.5	0.9	0.8
Vehicles Exited	455	1	183	639
Hourly Exit Rate	506	1	203	710
Input Volume	459	1	180	640
% of Volume	110	123	113	111
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	418	418
Hourly Exit Rate	464	464
Input Volume	423	423
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	476	476
Hourly Exit Rate	529	529
Input Volume	468	468
% of Volume	113	113
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	381	381
Hourly Exit Rate	423	423
Input Volume	378	378
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	267	267
Hourly Exit Rate	297	297
Input Volume	270	270
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7

Vehicles Exited	203	203
Hourly Exit Rate	226	226
Input Volume	207	207
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	365	365
Hourly Exit Rate	406	406
Input Volume	360	360
% of Volume	113	113
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	259	259
Hourly Exit Rate	288	288
Input Volume	252	252
% of Volume	114	114
Denied Entry Before	0	0
Denied Entry After	0	0

117: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	0.9	0.6
Vehicles Exited	966	186	1152
Hourly Exit Rate	1073	207	1280
Input Volume	981	189	1170

% of Volume	109	109	109
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

118: Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	1.9		1.3	1.7
Vehicles Exited	965	0	332	1297
Hourly Exit Rate	1072	0	369	1441
Input Volume	981	0	333	1314
% of Volume	109	0	111	110
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	405	405
Hourly Exit Rate	450	450
Input Volume	414	414
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.1	5.1
Vehicles Exited	308	308
Hourly Exit Rate	342	342
Input Volume	306	306
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

121: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	111	111
Hourly Exit Rate	123	123
Input Volume	117	117
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

122: NCC Performance by movement

Movement	WBT	NET	NER	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	2		1.1	1.6
Vehicles Exited	1147	0	1060	2207
Hourly Exit Rate	1274	0	1178	2452
Input Volume	1162	0	1071	2233
% of Volume	110	0	110	110
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	147	147
Hourly Exit Rate	163	163
Input Volume	145	145
% of Volume	113	113
Denied Entry Before	0	0
Denied Entry After	0	0

124: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	27	27
Hourly Exit Rate	30	30
Input Volume	28	28
% of Volume	108	108
Denied Entry Before	0	0
Denied Entry After	0	0

125: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.4	0.6	1.3
Vehicles Exited	565	72	637
Hourly Exit Rate	628	80	708
Input Volume	567	72	639
% of Volume	111	111	111
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	637	637
Hourly Exit Rate	708	708
Input Volume	639	639
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

127: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	1.6	1.5

Vehicles Exited	566	386	952
Hourly Exit Rate	629	429	1058
Input Volume	567	387	954
% of Volume	111	111	111
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

128: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	604	604
Hourly Exit Rate	671	671
Input Volume	594	594
% of Volume	113	113
Denied Entry Before	0	0
Denied Entry After	0	0

129: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	953	953
Hourly Exit Rate	1059	1059
Input Volume	954	954
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	1297	1297
Hourly Exit Rate	1441	1441
Input Volume	1314	1314

% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	459	459
Hourly Exit Rate	510	510
Input Volume	468	468
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	3.6	4.1	3.8
Vehicles Exited	1045	988	2033
Hourly Exit Rate	1161	1098	2259
Input Volume	1053	990	2044
% of Volume	110	111	111
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	24	24
Hourly Exit Rate	27	27
Input Volume	28	28
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

134: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.8	2.8	6
Vehicles Exited	708	410	1118
Hourly Exit Rate	787	456	1242
Input Volume	711	414	1125
% of Volume	111	110	110
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	878	878
Hourly Exit Rate	976	976
Input Volume	891	891
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

136: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.7	3.2	3.4
Vehicles Exited	382	381	763
Hourly Exit Rate	424	423	848
Input Volume	378	387	765
% of Volume	112	109	111
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

137: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.2	0.9	2.5
Vehicles Exited	382	381	763
Hourly Exit Rate	424	423	848
Input Volume	378	387	765
% of Volume	112	109	111
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

138: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	104	104
Hourly Exit Rate	116	116
Input Volume	99	99
% of Volume	117	117
Denied Entry Before	0	0
Denied Entry After	0	0

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	479	479
Hourly Exit Rate	532	532
Input Volume	477	477
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

140: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.4	8.4

Vehicles Exited	532	532
Hourly Exit Rate	591	591
Input Volume	531	531
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

141: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	27	27
Hourly Exit Rate	30	30
Input Volume	27	27
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

142: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	162	162
Hourly Exit Rate	180	180
Input Volume	153	153
% of Volume	118	118
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	493	493
Hourly Exit Rate	548	548
Input Volume	486	486

% of Volume	113	113
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	3.1	0.6	1.6
Vehicles Exited	440	604	1044
Hourly Exit Rate	489	671	1160
Input Volume	441	603	1044
% of Volume	111	111	111
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	36	36
Hourly Exit Rate	40	40
Input Volume	37	37
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

146: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	440	440
Hourly Exit Rate	489	489
Input Volume	441	441
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

147: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	1066	1066
Hourly Exit Rate	1184	1184
Input Volume	1080	1080
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

148: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	55	55
Hourly Exit Rate	61	61
Input Volume	54	54
% of Volume	113	113
Denied Entry Before	0	0
Denied Entry After	0	0

149: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	7.7	0.7	5.2
Vehicles Exited	1066	614	1680
Hourly Exit Rate	1184	682	1867
Input Volume	1080	621	1701
% of Volume	110	110	110
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	88	88
Hourly Exit Rate	98	98
Input Volume	91	91
% of Volume	108	108
Denied Entry Before	0	0
Denied Entry After	0	0

151: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	295	295
Hourly Exit Rate	328	328
Input Volume	296	296
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.2	3.4	5.3
Vehicles Exited	1057	988	2045
Hourly Exit Rate	1174	1098	2272
Input Volume	1053	990	2043
% of Volume	112	111	111
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1	5.8	3.5

Vehicles Exited	1061	1148	2209
Hourly Exit Rate	1179	1276	2454
Input Volume	1071	1161	2232
% of Volume	110	110	110
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

156: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.3	3	2.7
Vehicles Exited	512	499	1011
Hourly Exit Rate	569	554	1123
Input Volume	513	495	1008
% of Volume	111	112	111
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

157: Crane Rd Performance by movement

Movement	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0
Total Del/Veh (s)	0.6	0.5	1.7	1.7	1
Vehicles Exited	103	45	52	18	218
Hourly Exit Rate	114	50	58	20	242
Input Volume	108	45	54	18	226
% of Volume	106	111	106	110	107
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

158: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	18	18
Hourly Exit Rate	20	20
Input Volume	18	18

% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

159: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	45	45
Hourly Exit Rate	50	50
Input Volume	45	45
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

163: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	698	698
Hourly Exit Rate	776	776
Input Volume	702	702
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

164: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	611	611
Hourly Exit Rate	679	679
Input Volume	621	621
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

165: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	613	613
Hourly Exit Rate	681	681
Input Volume	612	612
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	30	30
Hourly Exit Rate	33	33
Input Volume	28	28
% of Volume	120	120
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	36	36
Hourly Exit Rate	40	40
Input Volume	37	37
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	39	39
Hourly Exit Rate	43	43
Input Volume	37	37
% of Volume	118	118
Denied Entry Before	0	0
Denied Entry After	0	0

172: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	155	155
Hourly Exit Rate	172	172
Input Volume	154	154
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	27	27
Hourly Exit Rate	30	30
Input Volume	28	28
% of Volume	108	108
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1

Vehicles Exited	124	124
Hourly Exit Rate	138	138
Input Volume	126	126
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	27	27
Hourly Exit Rate	30	30
Input Volume	27	27
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

177: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	103	103
Hourly Exit Rate	114	114
Input Volume	108	108
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

178: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	28	28
Hourly Exit Rate	31	31
Input Volume	28	28

% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

179: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	758	758
Hourly Exit Rate	842	842
Input Volume	764	764
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	68	68
Hourly Exit Rate	76	76
Input Volume	72	72
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	56	56
Hourly Exit Rate	62	62
Input Volume	54	54
% of Volume	115	115
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	208	208
Hourly Exit Rate	231	231
Input Volume	207	207
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	24	24
Hourly Exit Rate	27	27
Input Volume	28	28
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

184: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	27	27
Hourly Exit Rate	30	30
Input Volume	28	28
% of Volume	108	108
Denied Entry Before	0	0
Denied Entry After	0	0

185: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	473	473
Hourly Exit Rate	526	526
Input Volume	468	468
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

186: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.2
Total Del/Veh (s)	1.1	0.1	0.4
Vehicles Exited	102	222	324
Hourly Exit Rate	113	247	360
Input Volume	108	234	341
% of Volume	105	106	105
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

187: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.1	5.1
Vehicles Exited	1063	1063
Hourly Exit Rate	1181	1181
Input Volume	1053	1053
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

188: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.5	4	3.7

Vehicles Exited	707	412	1119
Hourly Exit Rate	786	458	1243
Input Volume	711	414	1125
% of Volume	110	111	110
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

189: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	28	28
Hourly Exit Rate	31	31
Input Volume	28	28
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

192: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.5	0.5	0.5
Vehicles Exited	456	83	539
Hourly Exit Rate	507	92	599
Input Volume	460	81	540
% of Volume	110	114	111
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

193: NCC SPUI Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1	1.8	1.2
Vehicles Exited	1010	288	1298
Hourly Exit Rate	1122	320	1442
Input Volume	1027	288	1315

% of Volume	109	111	110
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

195: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	461	461
Hourly Exit Rate	512	512
Input Volume	459	459
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

196: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	638	638
Hourly Exit Rate	709	709
Input Volume	639	639
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

198: Performance by movement

Movement	WBT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	0.1	1
Vehicles Exited	1009	460	1469
Hourly Exit Rate	1121	511	1632
Input Volume	1026	459	1485
% of Volume	109	111	110
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

199: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	461	461
Hourly Exit Rate	512	512
Input Volume	459	459
% of Volume	112	112
Denied Entry Before	0	0
Denied Entry After	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1152	1152
Hourly Exit Rate	1280	1280
Input Volume	1170	1170
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	114	114
Hourly Exit Rate	127	127
Input Volume	117	117
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

300: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.6	2.6	2.2
Vehicles Exited	408	763	1171
Hourly Exit Rate	453	848	1301
Input Volume	414	773	1187
% of Volume	110	110	110
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	1340	1340
Hourly Exit Rate	1489	1489
Input Volume	1350	1350
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

500: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.1	0	0
Total Del/Veh (s)	0.4	1.9	1.5
Vehicles Exited	248	611	859
Hourly Exit Rate	276	679	954
Input Volume	252	621	873
% of Volume	109	109	109
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	34.6

Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	25
Denied Entry Before	0
Denied Entry After	0

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Queuing ar AM Peak Hour
2022 Alterr 9/3/2014

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	102	184	175	202	106	278	226	252	254	76	236	133	64	190
Average Queue (ft)	35	96	96	108	47	125	94	125	137	20	111	33	17	85
95th Queue (ft)	80	158	160	178	86	219	185	214	224	55	206	92	48	159
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	530				410	580				530	330		300	
Storage Blk Time (%)											0			
Queuing Penalty (veh)											0			

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	L	T	T	TR
Maximum Queue (ft)	84	128	158	175	161	126	167	184	210	224	238	44	66	64	59	59	56	19	74	76	67	82
Average Queue (ft)	25	56	67	78	64	32	88	102	83	90	107	7	17	23	19	23	12	1	20	30	20	23
95th Queue (ft)	65	112	135	147	127	100	144	162	166	175	194	29	48	48	46	49	39	13	53	61	55	58
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923		3946	3946	3946
Upstream Blk Time (%)																						
Queuing Penalty (veh)																						
Storage Bay Dist (ft)	715				355	920	920	920				750	800						550			

Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	194	132	85	434	220	85	172	166	157	262	313
Average Queue (ft)	95	44	13	222	86	24	92	86	61	128	165
95th Queue (ft)	162	99	56	373	215	63	156	148	126	231	282
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				0							
Queuing Penalty (veh)				0							
Storage Bay Dist (ft)	250		90		160	185			290		
Storage Blk Time (%)	0			36	0		0			0	
Queuing Penalty (veh)	0			50	0		0			0	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	223	150	213	198
Average Queue (ft)	105	72	85	66
95th Queue (ft)	184	132	184	158
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	143	183	21	53
Average Queue (ft)	51	85	1	16
95th Queue (ft)	113	147	14	40
Link Distance (ft)	491		3699	672

Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)		530															
Storage Blk Time (%)																	
Queuing Penalty (veh)																	

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	L	T	T	T	>
Maximum Queue (ft)	32	60	130	114	151	238	117	118	106	82	69	52	92	142	175	135	148
Average Queue (ft)	4	16	57	55	70	104	48	52	36	13	20	8	25	65	77	25	56
95th Queue (ft)	21	45	111	98	122	187	98	96	80	45	54	35	66	116	143	82	109
Link Distance (ft)			1092			1084		737	737	737	737			1039	1039	1039	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300	300		300	300		700					300	550				650
Storage Blk Time (%)						0											
Queuing Penalty (veh)						0											

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	166	168	185	187	195	113	128	134	281	288	252	240	172	193	228	249	219	130	107	148	290	254	225
Average Queue (ft)	87	98	105	114	98	51	54	76	161	176	151	99	72	92	131	146	112	47	17	67	178	155	110
95th Queue (ft)	148	151	161	169	168	90	106	123	238	256	236	203	138	159	199	221	197	98	65	124	260	241	199
Link Distance (ft)			4930	4930	4930				3510	3510	3510				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)																							
Queuing Penalty (veh)																							
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)									0			0		0	0		1	0					
Queuing Penalty (veh)									0			0		0	0		1	0					

Intersection: 8: Coffee Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	15	58	104	122	138	67	205	77	54	55	62	122	109	144

Average Queue (ft)	1	14	26	52	74	18	102	18	7	15	15	54	39	63
95th Queue (ft)	8	41	70	102	121	52	176	52	30	42	44	100	86	115
Link Distance (ft)		860	860		880	880		918	918			952	952	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	500			500			650			650	650			650
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	114	141	187	164	39	103	135	224	226	194	231	256	183	163	84	236	206	138
Average Queue (ft)	22	69	98	53	5	42	52	147	144	89	90	146	89	69	26	142	88	64
95th Queue (ft)	72	121	167	128	22	84	105	207	210	175	193	222	160	133	63	212	183	113
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)											0	0				0		
Queuing Penalty (veh)											0	0				0		

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	86	98	84	110	122	142	172	194	110	129	118	132	121
Average Queue (ft)	25	39	31	39	62	61	76	94	41	57	44	49	49
95th Queue (ft)	65	76	73	85	106	121	146	167	91	111	95	104	95
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								0			0	5	1
Queuing Penalty (veh)								0			0	8	1

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	137	89	96	205	266	42	94	117	134	136	96	220	250
Average Queue (ft)	49	25	37	66	138	7	30	48	54	60	31	77	124
95th Queue (ft)	106	64	72	162	226	28	74	95	101	105	73	155	211
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		
Storage Blk Time (%)				0	0							0	
Queuing Penalty (veh)				0	0							0	

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	144	165	92	42	57	150	106	28	53	259	286	124	111	52	334	289	143
Average Queue (ft)	32	83	35	5	12	73	28	2	9	148	179	63	38	10	206	150	60
95th Queue (ft)	93	142	74	24	40	121	73	16	34	234	257	109	87	36	304	266	109
Link Distance (ft)		1375	1375	1375		1274	1274	1274			2052	2052	2052		480	480	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)															1	0	
Queuing Penalty (veh)															0	0	

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	200	127	113	267	177	140	329	207	272	160
Average Queue (ft)	74	39	22	113	65	39	152	85	91	73
95th Queue (ft)	148	92	72	217	146	98	272	165	198	139
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			0	22	0		1	1	7	1
Queuing Penalty (veh)			2	42	0		1	2	22	2

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	65	81	109	47	80	54	44	9	6	52	16	14
Average Queue (ft)	23	35	51	7	28	16	6	0	0	7	1	1
95th Queue (ft)	56	71	89	29	61	41	29	5	5	33	8	7
Link Distance (ft)		1163			1019			1058	1058		414	414
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300	300		300	300			300		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	77	83	84	67	67	79	29
Average Queue (ft)	31	40	30	15	16	32	7
95th Queue (ft)	66	71	66	48	50	65	25
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		300	400				150
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	120	127	195	214	246	101	105	125	140	189	203	188	46	112	139	144	78	85	154	65	71	111	102	170
Average Queue (ft)	38	61	96	117	143	37	29	55	69	94	102	75	8	16	70	78	28	31	67	11	28	51	36	70
95th Queue (ft)	90	106	166	189	225	79	78	107	117	158	169	148	26	65	122	129	62	71	130	41	57	94	81	134
Link Distance (ft)			1066	1066	1066				1590	1590	1590	1590				1090	1090	1090				1217	1217	
Upstream Blk Time (%)																								
Queuing Penalty (veh)																								

Storage Bay Dist (ft)	800	800				1000	970	970				850	720	720			1000	520	520		720
Storage Blk Time (%)																					
Queuing Penalty (veh)																					

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	LT	R
Maximum Queue (ft)	60	5	44	61	73	37
Average Queue (ft)	12	0	9	18	28	8
95th Queue (ft)	42	4	33	50	59	29
Link Distance (ft)				1487	797	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	300	300	200			300
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 18: Bentley & Claribel

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	25	33	53	58	65	59
Average Queue (ft)	2	2	20	9	25	17
95th Queue (ft)	13	14	48	37	55	48
Link Distance (ft)	2720	2487	1498		1216	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			3	1	4	1
Queuing Penalty (veh)			0	0	1	1

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	85	112	131	79	143	98	101	102	99	77	85
Average Queue (ft)	35	43	54	29	74	41	44	37	46	27	42
95th Queue (ft)	70	91	108	66	127	81	84	76	84	61	71

Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)									1	0	0
Queuing Penalty (veh)									1	1	1

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	109	280	237	56	224	177	243	247	92	391	346
Average Queue (ft)	82	107	107	8	103	77	133	135	29	221	190
95th Queue (ft)	124	219	195	32	189	140	215	213	71	341	304
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	41	21	0		0						
Queuing Penalty (veh)	120	59	0		0						

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	88	129	149	164	96	99	140	163	130	107	81	164	115
Average Queue (ft)	30	53	60	74	32	32	52	83	52	37	26	76	45
95th Queue (ft)	68	102	122	134	72	77	108	133	104	83	61	138	86
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)				0				0	10	1	0	4	0
Queuing Penalty (veh)				0				0	33	4	0	5	0

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR

Maximum Queue (ft)	80	100	64	43	129	152	74	235	229	141	171	189
Average Queue (ft)	26	26	19	8	49	67	17	118	95	57	66	84
95th Queue (ft)	62	69	51	31	101	118	51	202	184	112	141	161
Link Distance (ft)		5602			2237			1498			2124	2124
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	225		225	400		300	400		
Storage Blk Time (%)						0		0	0			
Queuing Penalty (veh)						0		0	0			

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	87	93	56	75	198	122	188	163	63	252	216	58
Average Queue (ft)	24	23	16	26	93	44	81	49	10	122	83	15
95th Queue (ft)	59	62	41	61	161	96	150	113	41	204	170	45
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)					1							
Queuing Penalty (veh)					0							

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	24	78	91	92	94	91	66	100	82	108	140	59	120	135	87	137
Average Queue (ft)	3	26	26	30	45	26	22	37	15	42	66	16	44	57	11	62
95th Queue (ft)	16	62	68	69	81	69	55	81	54	88	115	44	95	110	47	109
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	600				700	600				600
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 25: Roselle & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	31	16	118	84	99	85	144	113	71	86	85	114	113	51
Average Queue (ft)	3	1	51	24	47	26	60	31	5	19	22	46	44	4
95th Queue (ft)	16	9	99	61	82	64	116	77	31	55	60	91	91	22
Link Distance (ft)			1221		1142	1142		671	671			1058	1058	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	500	500		500			400			400	550			550
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 26: Crane Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L	T	R	L	T	R	R
Maximum Queue (ft)	173	180	113	138	114	22	95	120	126	135	46	42	77	68	78	72	111	140
Average Queue (ft)	83	101	39	46	27	1	26	57	55	58	6	7	17	21	23	17	47	62
95th Queue (ft)	150	163	88	107	79	11	70	100	104	114	27	26	52	50	58	48	88	113
Link Distance (ft)		1599	1599	1599	1599			1340	1340	1340			914			2750	2750	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	750					630	930				630	150		300	275			275
Storage Blk Time (%)																		
Queuing Penalty (veh)																		

Intersection: 27: Albers Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T	T	R	L	T	T	R	R
Maximum Queue (ft)	244	222	88	85	41	148	140	101	106	56	45	226	241	122	49	162	144	85	72
Average Queue (ft)	130	126	27	22	5	59	65	33	48	11	9	107	116	46	9	87	73	28	20
95th Queue (ft)	207	200	63	61	25	117	116	76	92	37	32	191	200	94	33	144	132	63	54
Link Distance (ft)		1587	1587	1587				4484	4484			2124	2124			2188	2188		
Upstream Blk Time (%)																			
Queuing Penalty (veh)																			
Storage Bay Dist (ft)	750				750	720	720			670	200			300	200			500	500
Storage Blk Time (%)												1	0						

Queuing Penalty (veh)	0	0

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	TR	LT	TR	LT	TR
Maximum Queue (ft)	61	44	74	72	41	42	44	69
Average Queue (ft)	7	2	20	13	6	3	4	16
95th Queue (ft)	35	18	57	46	29	21	24	51
Link Distance (ft)	2821	2821	3949	3949	407	407	838	838
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 29: NCC & SR 120/108

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LT	LT	TR	LT	R	LTR
Maximum Queue (ft)	91	75	28	33	38	92
Average Queue (ft)	35	16	1	3	4	35
95th Queue (ft)	75	53	14	19	25	76
Link Distance (ft)	2190	1153	1153	3949	3949	267
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	69	60	49	59	99	62	80	89	32	46	109	96	116	28
Average Queue (ft)	16	18	9	14	43	11	16	23	2	10	50	29	41	2
95th Queue (ft)	48	46	34	41	84	40	56	67	16	34	96	73	91	15
Link Distance (ft)		882		1216		1039	1039	1039			2422	2422	2422	
Upstream Blk Time (%)														

Queuing Penalty (veh)													
Storage Bay Dist (ft)	300		300		300				300	300			300
Storage Blk Time (%)													
Queuing Penalty (veh)													

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	58	52	69	69	58	99	70	49	19	59	119	120	52
Average Queue (ft)	16	18	21	24	20	36	19	6	1	21	49	63	12
95th Queue (ft)	48	45	55	58	52	84	55	32	11	53	106	115	39
Link Distance (ft)		429		638		834	834				757	757	757
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	300		300		300			400	450	450			
Storage Blk Time (%)													
Queuing Penalty (veh)													

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	R	L	T	T
Maximum Queue (ft)	42	60	55	48	36	5	24	2	2
Average Queue (ft)	9	16	12	14	4	0	2	0	0
95th Queue (ft)	34	47	41	39	22	6	16	2	2
Link Distance (ft)		1233		2054				1349	1349
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	300		300		300	300	300		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	43	37	44	66	28	4	2	49	2	2
Average Queue (ft)	12	8	10	24	5	0	0	10	0	0

95th Queue (ft)	36	26	37	61	22	3	2	38	4	2
Link Distance (ft)		672		1095		1003			918	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	300		300		300		300	300		300
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	T
Maximum Queue (ft)	96	71	63	76	37	5	3	35	3	4
Average Queue (ft)	30	28	21	30	6	0	0	5	0	0
95th Queue (ft)	79	64	56	72	27	6	3	22	3	3
Link Distance (ft)		636		496		370	370		1357	1357
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	300		300		300			300		
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	63	83	115	102	64	98	113
Average Queue (ft)	17	43	44	29	17	29	46
95th Queue (ft)	52	75	98	78	52	77	103
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Claribel Realigned (N)

Movement	EB	WB	NB	SB

Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	57	52	16	11
Average Queue (ft)	22	23	1	0
95th Queue (ft)	54	53	12	6
Link Distance (ft)	662	702		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			50	50
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	62	62	98	31	68	87	64	73	116
Average Queue (ft)	19	28	49	6	18	39	16	25	43
95th Queue (ft)	53	60	90	25	53	79	48	64	94
Link Distance (ft)		1110	417		1217	1217		1028	1028
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	T	T	R	L	L	T	T
Maximum Queue (ft)	77	103	113	139	49	50	80	93	104
Average Queue (ft)	28	52	53	67	12	10	41	23	47
95th Queue (ft)	66	94	100	126	41	38	76	69	96
Link Distance (ft)	437		1878	1878				841	841
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		300			300	890	890		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (ft)	54	82	4	56
Average Queue (ft)	18	53	0	7
95th Queue (ft)	50	81	4	35
Link Distance (ft)	838	838	795	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 56: NCC SPUI

Movement	NE	NE	NE
Directions Served	R	R	>
Maximum Queue (ft)	17	3	3
Average Queue (ft)	1	0	0
95th Queue (ft)	10	3	4
Link Distance (ft)	1216	1216	1216
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 57:

Movement	EB	NE
Directions Served	T	R
Maximum Queue (ft)	2	30
Average Queue (ft)	0	2
95th Queue (ft)	3	15
Link Distance (ft)	2177	551
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		

Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 58: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 62: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 63: NCC

Movement	SW	SW
Directions Served	R	R
Maximum Queue (ft)	5	5
Average Queue (ft)	0	0
95th Queue (ft)	5	5
Link Distance (ft)	388	388

Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 81:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 84: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 90: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	34

Average Queue (ft)	1
95th Queue (ft)	37
Link Distance (ft)	586
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 96:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 101:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 109:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 117: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 118:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 122: NCC

Movement	B155	B155
Directions Served	T	
Maximum Queue (ft)	6	6
Average Queue (ft)	0	0
95th Queue (ft)	0	0
Link Distance (ft)	1066	1066
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 125: NCC SPUI & NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 127:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)

Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 157: Crane Rd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 192: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 193: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)

Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 198:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary
Network wide Queuing Penalty: 358

SimTraffic Performance Report
2022 Alternative 1A PM Peak Hour
9/11/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.9	0.1	0.8	0	0	0	2	0.3	0.3	2.1	0.3	0.2	0.2
Total Del/Veh (s)	34.2	20.9	7.3	34.3	16.9	8	30.8	27.4	13.3	29.7	27	15.2	19.9
Vehicles Exited	36	1046	145	126	973	54	81	92	100	53	86	12	2804
Hourly Exit Rate	36	1046	145	126	973	54	81	92	100	53	86	12	2804
Input Volume	40	1040	150	130	981	50	80	90	100	60	80	10	2811
% of Volume	91	101	97	97	99	108	101	103	100	88	107	117	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	35.4	33	16.1	33	11.1	3	25.1	20.3	4.7	30.3	27.7	7.9	21.3
Vehicles Exited	20	1012	171	363	870	47	258	154	476	57	137	22	3587
Hourly Exit Rate	20	1012	171	363	870	47	258	154	476	57	137	22	3587
Input Volume	20	1010	170	350	880	50	260	160	460	60	140	20	3580
% of Volume	99	100	101	104	99	94	99	96	103	95	98	109	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.4	0.3	0	0	0	0	0	0	0.3	0.2	0.2	0.2
Total Del/Veh (s)	70.5	30.1	20.1	59.6	37.9	8.5	45.8	36.4	26.9	70.2	30.7	23.3	40.8
Vehicles Exited	231	174	23	9	250	97	58	369	11	267	432	194	2115
Hourly Exit Rate	231	174	23	9	250	97	58	369	11	267	432	194	2115
Input Volume	240	170	20	10	250	90	60	370	10	270	420	190	2102
% of Volume	96	102	114	88	100	108	97	100	107	99	103	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	14.1	4.8	7.4	1	12.3	8
Vehicles Exited	125	12	421	352	461	1371
Hourly Exit Rate	125	12	421	352	461	1371
Input Volume	130	10	430	340	451	1361
% of Volume	96	117	98	104	102	101
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	0.4	0.4	0	0.2
Total Del/Veh (s)	21.8	8.1	20.5	3.1	7.2	12.4
Vehicles Exited	442	10	128	356	352	1288
Hourly Exit Rate	442	10	128	356	352	1288
Input Volume	442	10	130	350	340	1272
% of Volume	100	98	98	102	104	101
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0		0	0	0	0	0	0	0	0
Total Del/Veh (s)	21.3	0.4	21.6	21.2		22.8	19	11.6	5.7	19.7	16.8	7.5	14.6
Vehicles Exited	202	2	202	224	0	168	130	609	533	67	493	155	2785
Hourly Exit Rate	202	2	202	224	0	168	130	609	533	67	493	155	2785
Input Volume	200	2	200	220	1	170	130	610	530	70	480	150	2762
% of Volume	101	133	101	102	0	99	100	100	101	95	103	104	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.2	0.3	0.1	0.2	0.3	0.1	0.2	2.2	0.3	0.4	0.4
Total Del/Veh (s)	44	67	20.5	46.5	32.8	4.7	47.4	37.7	15.8	44.3	26.5	18.2	39.2
Vehicles Exited	268	1076	342	221	594	165	290	1003	191	482	924	229	5785
Hourly Exit Rate	268	1076	342	221	594	165	290	1003	191	482	924	229	5785
Input Volume	270	1080	340	220	590	160	290	1010	190	490	930	230	5800
% of Volume	99	100	101	100	101	103	100	99	100	98	99	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

8: Coffee Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	17.6	0.3	14.3	15.5	24.9	16	5.9	3.9	31.7	16	6.8	12.3
Vehicles Exited	301	1	171	225	23	224	202	333	19	168	141	1808
Hourly Exit Rate	301	1	171	225	23	224	202	333	19	168	141	1808
Input Volume	300	1	170	230	20	220	201	330	20	171	150	1813
% of Volume	100	133	101	98	114	102	100	101	94	98	94	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2	0.1	2	1.4	0.1	0.1	2.8	0.1	0.1	3.3	0.1	3.3	1
Total Del/Veh (s)	33.6	26.1	8.6	34.2	24.3	8.3	32.6	20.3	10	34.7	25.2	8	22.6
Vehicles Exited	282	927	479	91	479	66	320	427	68	69	181	215	3604
Hourly Exit Rate	282	927	479	91	479	66	320	427	68	69	181	215	3604
Input Volume	280	930	480	90	480	60	320	420	70	70	180	210	3590
% of Volume	101	100	100	101	100	110	100	102	97	99	101	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.3	0.2	0.2	0.3	0.1	0.1	1.6	0.2	0.1	1.7	0.3	1.8	0.4
Total Del/Veh (s)	45.4	20.3	14.9	43.3	15.3	9	42.8	28.4	32.9	43.3	39.8	6.3	27.6

Vehicles Exited	90	599	109	302	289	30	136	73	197	48	49	59	1981
Hourly Exit Rate	90	599	109	302	289	30	136	73	197	48	49	59	1981
Input Volume	90	600	110	300	290	30	140	70	190	50	50	60	1980
% of Volume	100	100	99	101	100	101	97	104	104	96	98	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.3	0.2	0.4	0.2	3.5	0	0	0	0.3	0.1	0.1	0.3
Total Del/Veh (s)	24.1	38.6	7.2	27.4	44	3.5	36.9	19.4	7.6	36.8	19.7	13.5	19.2
Vehicles Exited	80	18	98	376	8	40	59	459	380	57	445	42	2062
Hourly Exit Rate	80	18	98	376	8	40	59	459	380	57	445	42	2062
Input Volume	80	20	100	370	10	40	60	470	380	60	450	40	2080
% of Volume	100	89	98	102	78	101	98	98	100	95	99	106	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.6	0.5	2.8	3.7	0.1	3.9	0.3	0.1	0.2	3.1	0.2	3	1
Total Del/Veh (s)	36.2	21.4	5.3	33.7	28.6	4.3	29	11.8	6	35.1	25.7	4.6	17.6
Vehicles Exited	163	309	708	18	192	23	319	665	42	10	575	148	3172
Hourly Exit Rate	163	309	708	18	192	23	319	665	42	10	575	148	3172
Input Volume	170	300	690	20	190	20	330	670	40	10	580	150	3170
% of Volume	96	103	103	89	101	114	97	99	106	98	99	99	100
Denied Entry Before	0	0	1	0	0	0	0	0	0	0	0	0	1
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.3	0.3	0.3	3.6	0.5	0.4	2.3	0.9	2.4	0.8
Total Del/Veh (s)	39.3	25.2	17.5	50.2	36	11.2	28.9	38.6	30.2	38	35.5	9.3	30.7
Vehicles Exited	270	336	34	28	142	121	58	212	30	221	172	138	1762
Hourly Exit Rate	270	336	34	28	142	121	58	212	30	221	172	138	1762
Input Volume	270	340	30	30	140	120	60	220	30	220	180	140	1780

% of Volume	100	99	114	94	101	101	97	96	101	100	96	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.4	4	4.1	0.2	4	0	0	0	0	0	0	0.5
Total Del/Veh (s)	17.4	16.6	4.1	15.9	16.5	2.5	6.5	3.3	1.6	2.8	0.7	0.3	4.5
Vehicles Exited	18	37	73	16	60	21	132	356	33	32	314	20	1112
Hourly Exit Rate	18	37	73	16	60	21	132	356	33	32	314	20	1112
Input Volume	20	40	70	20	60	20	130	360	30	30	310	20	1112
% of Volume	89	93	104	79	100	104	101	99	111	108	101	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.3	4	0.3
Total Del/Veh (s)	6.8	4.1	14.7	3.5	9.9	3.1	5.8
Vehicles Exited	457	177	30	193	45	63	965
Hourly Exit Rate	457	177	30	193	45	63	965
Input Volume	450	170	30	190	50	60	950
% of Volume	102	104	101	101	90	105	102
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	36.5	26.1	7.9	33.9	22.6	4.1	46.4	16.9	9	33.9	36.3	12.1	24.8
Vehicles Exited	244	836	327	385	774	99	381	128	328	27	200	235	3964
Hourly Exit Rate	244	836	327	385	774	99	381	128	328	27	200	235	3964
Input Volume	240	830	330	380	760	100	380	131	320	30	190	240	3930
% of Volume	102	101	99	101	102	99	100	98	103	91	105	98	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2	0.3	0.3	0.2	0.2	0.2	1.7	0.1	0.1	0	0	0	0.5
Total Del/Veh (s)	1.9	1.5	0.7	2.2	2.3	1	6.6	7.6	3	6.6	9.8	4.1	3
Vehicles Exited	113	124	11	8	106	21	8	9	12	42	9	150	613
Hourly Exit Rate	113	124	11	8	106	21	8	9	12	42	9	150	613
Input Volume	110	120	10	10	100	20	10	10	10	40	10	150	601
% of Volume	103	103	107	78	106	104	78	88	117	106	88	100	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	4	0.1	0.2	4.2	0.4
Total Del/Veh (s)	3.3	1.9	1.8	2	1.5	0.4	5.5	9.4	3.6	5.5	9.6	2.6	2.7
Vehicles Exited	10	217	22	29	108	21	10	29	12	22	11	11	502
Hourly Exit Rate	10	217	22	29	108	21	10	29	12	22	11	11	502
Input Volume	10	210	20	30	110	20	10	30	10	20	10	10	491
% of Volume	98	103	109	97	98	104	98	97	117	109	107	107	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.5	0.5	0.6	3.8	0.3	0.4	1.9	0.4	2	0.6
Total Del/Veh (s)	22.2	9.1	5.2	27.9	13.8	7.1	18.6	14.5	6.9	18.5	13.2	4.8	12.3
Vehicles Exited	86	517	39	31	482	74	89	50	60	92	38	86	1644
Hourly Exit Rate	86	517	39	31	482	74	89	50	60	92	38	86	1644
Input Volume	90	510	40	30	480	70	90	50	60	90	40	90	1640
% of Volume	95	101	98	102	100	106	99	101	100	102	96	95	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.4	0.4	0.3	0.1	0.1	1.6	0.6	1.7	0.2	0.1	0.2	0.3
Total Del/Veh (s)	56.6	27.5	16.7	49.6	34.5	12.5	34.7	35.5	7	41.6	36	28.4	31.7
Vehicles Exited	101	284	49	19	215	373	101	404	30	307	392	66	2341
Hourly Exit Rate	101	284	49	19	215	373	101	404	30	307	392	66	2341
Input Volume	100	280	50	20	220	370	100	420	30	310	390	70	2361
% of Volume	101	101	98	94	98	101	101	96	99	99	100	94	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.8	0.1	0.2	0.3	0.1	0.1	2	0.6	1.9	0.3	0.2	0.3	0.7
Total Del/Veh (s)	27.1	15.3	7.3	26.6	15.4	7.4	27.2	19.7	6.7	30	24.8	8.2	16.9
Vehicles Exited	89	196	165	112	293	50	140	140	172	48	113	98	1616
Hourly Exit Rate	89	196	165	112	293	50	140	140	172	48	113	98	1616
Input Volume	90	200	160	110	290	50	140	150	170	50	120	100	1630
% of Volume	99	98	103	102	101	101	100	93	101	96	94	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	2.9	0.5	2.8	3.5	1.9	3.5	0	0	0	0.9
Total Del/Veh (s)	32.4	28.5	5.5	36	27.8	7.7	33.5	34.5	21.4	33.2	16.7	11.6	24.8
Vehicles Exited	66	97	12	8	21	203	31	468	11	332	554	38	1841
Hourly Exit Rate	66	97	12	8	21	203	31	468	11	332	554	38	1841
Input Volume	70	100	10	10	20	200	30	470	10	340	551	40	1851
% of Volume	94	97	117	78	104	102	104	100	107	98	101	96	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.5	3.8	2.4	0.2	0.3	3.1	0.2	0.2	3.2	0.1	3.4	0.7
Total Del/Veh (s)	29	22.4	5.6	26.9	20	9.1	27.2	10	4.1	29	13.2	5.5	13.3

Vehicles Exited	10	134	109	21	95	13	55	549	30	9	465	19	1509
Hourly Exit Rate	10	134	109	21	95	13	55	549	30	9	465	19	1509
Input Volume	10	130	100	20	90	10	50	570	30	10	470	20	1511
% of Volume	98	103	109	104	106	127	110	96	101	88	99	94	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0		0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	19.7		22.6	17.2	0.2	21.7	19.6	11.6	4.6	21.7	13.1	6.6	13.8
Vehicles Exited	317	0	116	218	2	152	10	429	214	48	598	274	2378
Hourly Exit Rate	317	0	116	218	2	152	10	429	214	48	598	274	2378
Input Volume	320	0	120	220	2	150	10	440	220	50	591	280	2403
% of Volume	99	0	97	99	133	102	98	97	97	96	101	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

25: Roselle & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0.2	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	17.8	0.2	15.2	17.9	0.1	20.4	14.1	7.7	4.3	23.7	14.1	4.3	12
Vehicles Exited	49	9	250	113	6	67	118	405	216	47	325	30	1635
Hourly Exit Rate	49	9	250	113	6	67	118	405	216	47	325	30	1635
Input Volume	50	8	250	110	5	70	120	400	210	50	321	30	1625
% of Volume	98	106	100	103	114	95	98	101	103	94	101	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

26: Crane Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.3	0.1	0.1	0
Total Del/Veh (s)	19.3	10.5	2.6	27.9	21.3	5.2	33.4	25.3	3.4	35.5	24.4	6.5	15.3
Vehicles Exited	566	595	20	141	630	28	10	40	71	26	52	598	2777
Hourly Exit Rate	566	595	20	141	630	28	10	40	71	26	52	598	2777
Input Volume	570	590	20	140	630	30	10	40	70	30	50	600	2781

% of Volume	99	101	99	101	100	94	98	100	101	87	104	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

27: Albers Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	1.9	0.6	2	0.5
Total Del/Veh (s)	24.3	20	4.3	27	27.6	6.4	44.7	24.7	11.1	36.1	20.3	7.1	19.3
Vehicles Exited	452	211	29	280	190	10	9	442	291	51	612	599	3176
Hourly Exit Rate	452	211	29	280	190	10	9	442	291	51	612	599	3176
Input Volume	450	210	30	280	190	10	10	440	290	50	620	600	3181
% of Volume	100	100	97	100	100	98	88	100	100	102	99	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0
Total Del/Veh (s)	4.7	8.2	4.6	3.5	6.7	2.4	4.6	4.5	2.7	3	4.2	3.1	5.8
Vehicles Exited	218	318	11	10	249	13	9	11	12	9	10	221	1091
Hourly Exit Rate	218	318	11	10	249	13	9	11	12	9	10	221	1091
Input Volume	220	320	10	10	250	10	10	10	10	10	10	220	1093
% of Volume	99	99	107	98	100	127	88	107	117	88	98	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.1	0	0	0	0	0	0	0.2	0.1	0.1	0.1
Total Del/Veh (s)	8.8	11.9	1.8	5.2	7.3	3	3	6.3	4.2	5.9	5.8	3.2	7.3
Vehicles Exited	95	360	12	240	345	12	27	29	282	19	21	30	1472
Hourly Exit Rate	95	360	12	240	345	12	27	29	282	19	21	30	1472
Input Volume	100	360	10	240	340	10	30	31	280	20	20	30	1472
% of Volume	95	100	117	100	101	117	91	93	101	94	104	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.3	0.3	4	0.2	0.2	0	0	0	1.9	0.1	1.5	0.2
Total Del/Veh (s)	17.2	15.3	4.7	16.1	14.9	5	18.8	6.9	3.9	18.6	7.4	3.3	8
Vehicles Exited	38	9	103	21	18	22	83	881	18	17	592	21	1823
Hourly Exit Rate	38	9	103	21	18	22	83	881	18	17	592	21	1823
Input Volume	40	10	100	20	20	20	80	880	20	20	580	20	1812
% of Volume	96	88	103	104	89	109	103	100	89	84	102	104	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.3	0.3	4	0.2	0.3	2.4	0.3	2.3	0	0	0	0.4
Total Del/Veh (s)	25.9	23.9	9.1	25.5	28.9	13.1	26.7	9.3	3.1	26.1	6.7	1.7	9.9
Vehicles Exited	78	12	72	38	9	61	39	1130	38	63	794	62	2396
Hourly Exit Rate	78	12	72	38	9	61	39	1130	38	63	794	62	2396
Input Volume	80	10	70	40	10	60	40	1130	40	60	780	60	2380
% of Volume	97	117	102	96	88	102	98	100	96	105	102	103	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.3	0.1	0.1	0.1	0.1	0.1	0	0	0	3.6	0.1	3.5	0.2
Total Del/Veh (s)	7.9	12.2	3.5	12	11.7	3.9	3.4	1.7	1.8	2.5	0.3	1.5	1.8
Vehicles Exited	10	10	9	19	10	11	8	495	23	9	300	10	914
Hourly Exit Rate	10	10	9	19	10	11	8	495	23	9	300	10	914
Input Volume	10	10	10	20	10	10	10	490	20	10	310	10	923
% of Volume	98	98	88	94	98	107	78	101	114	88	97	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.1	4	0.1	0.2	2.8	0.3	2.5	0	0	0	0.3
Total Del/Veh (s)	30.2	18.9	4.5	19.5	26.1	7.3	2.6	0.8	1.9	6.9	2	1.7	2.4
Vehicles Exited	21	11	11	11	10	22	10	715	11	18	526	20	1386
Hourly Exit Rate	21	11	11	11	10	22	10	715	11	18	526	20	1386
Input Volume	20	10	10	10	10	20	10	710	10	20	531	20	1384
% of Volume	104	107	107	107	98	109	98	101	107	89	99	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.1	0.1	4.4	0.1	0.1	3	0.3	3	0	0	0	0.2
Total Del/Veh (s)	31.1	21.1	6.6	19	28.1	9.5	6.2	0.7	0.4	6.7	3.3	2.3	3.1
Vehicles Exited	18	10	23	8	10	12	21	620	23	38	851	44	1678
Hourly Exit Rate	18	10	23	8	10	12	21	620	23	38	851	44	1678
Input Volume	20	10	20	10	10	10	20	640	20	40	851	40	1692
% of Volume	89	98	114	78	98	117	104	97	114	96	100	111	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	2.1	0.2	0.3	0.3	0	0	0.2
Total Del/Veh (s)	15.3	5.2	5	2.1	14.2	4.1	5.1
Vehicles Exited	39	41	701	41	38	648	1508
Hourly Exit Rate	39	41	701	41	38	648	1508
Input Volume	40	40	690	40	40	640	1490
% of Volume	98	103	102	103	96	101	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Davis & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	3.9	0.2	0.2	0	0	0	0.2
Total Del/Veh (s)	4.5	5.9	2.9	5	6.3	2.6	2	0.3	0.2	2.4	1	0.7	1.9

Vehicles Exited	10	10	11	9	12	10	9	61	11	11	57	11	222
Hourly Exit Rate	10	10	11	9	12	10	9	61	11	11	57	11	222
Input Volume	10	10	10	10	10	10	10	60	10	10	60	10	222
% of Volume	98	98	107	88	117	98	88	102	107	107	95	107	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.3	0.3	0.3	0	0	0	3.7	0.2	0.2	0.2
Total Del/Veh (s)	12.9	9.3	3.4	12.5	13.7	7.9	21.4	10.3	6.7	19.6	8.4	3.6	10.6
Vehicles Exited	60	10	12	206	9	31	29	415	28	38	242	40	1120
Hourly Exit Rate	60	10	12	206	9	31	29	415	28	38	242	40	1120
Input Volume	60	10	10	210	10	30	30	411	30	40	240	40	1121
% of Volume	100	98	117	98	88	104	97	101	94	96	101	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.2	1.2	0	0	0.1
Total Del/Veh (s)	18.6	7.3	11.6	4.9	17.2	5.1	9.7
Vehicles Exited	50	150	686	60	255	659	1860
Hourly Exit Rate	50	150	686	60	255	659	1860
Input Volume	50	150	680	60	260	641	1841
% of Volume	100	100	101	100	98	103	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0.1	0.1	3.8	0.6	1.5
Total Del/Veh (s)	7.9	0.2	3.9	1.4	0.2	2.1	1	3
Vehicles Exited	39	1	201	18	32	207	21	519
Hourly Exit Rate	39	1	201	18	32	207	21	519
Input Volume	40	1	200	20	30	210	20	520

% of Volume	98	100	101	89	108	99	104	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

40: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7	7
Vehicles Exited	497	497
Hourly Exit Rate	497	497
Input Volume	500	500
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	414	414
Hourly Exit Rate	414	414
Input Volume	420	420
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.8	6.8
Vehicles Exited	700	700
Hourly Exit Rate	700	700
Input Volume	700	700
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.3	10.3
Vehicles Exited	875	875
Hourly Exit Rate	875	875
Input Volume	890	890
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.8	5.8
Vehicles Exited	1440	1440
Hourly Exit Rate	1440	1440
Input Volume	1439	1439
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	194	194
Hourly Exit Rate	194	194
Input Volume	190	190
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	280	280
Hourly Exit Rate	280	280
Input Volume	290	290
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	391	391
Hourly Exit Rate	391	391
Input Volume	390	390
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	441	441
Hourly Exit Rate	441	441
Input Volume	450	450
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7

Vehicles Exited	210	210
Hourly Exit Rate	210	210
Input Volume	210	210
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	109	109
Hourly Exit Rate	109	109
Input Volume	110	110
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.7	6.7
Vehicles Exited	1113	1113
Hourly Exit Rate	1113	1113
Input Volume	1110	1110
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	572	572
Hourly Exit Rate	572	572
Input Volume	570	570

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	1300	1300
Hourly Exit Rate	1300	1300
Input Volume	1290	1290
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	2.7	4	3.3
Vehicles Exited	1191	1258	2449
Hourly Exit Rate	1191	1258	2449
Input Volume	1179	1240	2419
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	102	102
Hourly Exit Rate	102	102
Input Volume	99	99
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

56: NCC SPUI Performance by movement

Movement	NET	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	1	0.9
Vehicles Exited	1136	407	1543
Hourly Exit Rate	1136	407	1543
Input Volume	1130	400	1530
% of Volume	101	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

57: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.9	0.2	1.3	1.7
Vehicles Exited	1135	1	601	1737
Hourly Exit Rate	1135	1	601	1737
Input Volume	1130	1	600	1730
% of Volume	100	133	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

58: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	1.1	1
Vehicles Exited	998	392	1390
Hourly Exit Rate	998	392	1390
Input Volume	1000	390	1390
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	1410	1410
Hourly Exit Rate	1410	1410
Input Volume	1400	1400
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	547	547
Hourly Exit Rate	547	547
Input Volume	551	551
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.5	6.5
Vehicles Exited	792	792
Hourly Exit Rate	792	792
Input Volume	780	780
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

62: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.8	4.8	3.2

Vehicles Exited	1187	296	1483
Hourly Exit Rate	1187	296	1483
Input Volume	1182	300	1482
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

63: NCC Performance by movement

Movement	EBT	SWT	SWR	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	8.3		0.3	4.7
Vehicles Exited	1544	0	1281	2825
Hourly Exit Rate	1544	0	1281	2825
Input Volume	1530	0	1280	2810
% of Volume	101	0	100	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	587	587
Hourly Exit Rate	587	587
Input Volume	590	590
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.6	5.6
Vehicles Exited	576	576
Hourly Exit Rate	576	576
Input Volume	590	590

% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	362	362
Hourly Exit Rate	362	362
Input Volume	350	350
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	208	208
Hourly Exit Rate	208	208
Input Volume	200	200
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	220	220
Hourly Exit Rate	220	220
Input Volume	230	230
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	181	181
Hourly Exit Rate	181	181
Input Volume	180	180
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	358	358
Hourly Exit Rate	358	358
Input Volume	360	360
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	661	661
Hourly Exit Rate	661	661
Input Volume	670	670
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

72: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.4	1.1	1.4
Vehicles Exited	1261	353	1614
Hourly Exit Rate	1261	353	1614
Input Volume	1260	350	1610
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.5	0	0.3
Total Del/Veh (s)	3.3	5.1	4.2
Vehicles Exited	641	658	1299
Hourly Exit Rate	641	658	1299
Input Volume	640	660	1300
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.3	0.2
Total Del/Veh (s)	1.2	0.4	0.8
Vehicles Exited	395	365	760
Hourly Exit Rate	395	365	760
Input Volume	401	360	761
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

75: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9

Vehicles Exited	1241	1241
Hourly Exit Rate	1241	1241
Input Volume	1240	1240
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	1066	1066
Hourly Exit Rate	1066	1066
Input Volume	1071	1071
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

77: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.9	0.9	1.3	1.9
Vehicles Exited	1210	5	150	1365
Hourly Exit Rate	1210	5	150	1365
Input Volume	1200	4	150	1354
% of Volume	101	118	100	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	45	45
Hourly Exit Rate	45	45
Input Volume	51	51

% of Volume	89	89
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	170	170
Hourly Exit Rate	170	170
Input Volume	160	160
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	174	174
Hourly Exit Rate	174	174
Input Volume	170	170
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	2.2	1.2	1.4	2
Vehicles Exited	1146	8	264	1418
Hourly Exit Rate	1146	8	264	1418
Input Volume	1140	8	260	1407
% of Volume	101	107	102	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	110	110
Hourly Exit Rate	110	110
Input Volume	110	110
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	667	667
Hourly Exit Rate	667	667
Input Volume	660	660
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	3.1	1.7
Vehicles Exited	1249	181	1430
Hourly Exit Rate	1249	181	1430
Input Volume	1241	180	1421
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.5	0	0.4
Total Del/Veh (s)	0.8	1.1	0.9
Vehicles Exited	634	237	871
Hourly Exit Rate	634	237	871
Input Volume	620	240	860
% of Volume	102	99	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	0.2	3.3	2.4
Vehicles Exited	223	521	744
Hourly Exit Rate	223	521	744
Input Volume	220	510	730
% of Volume	101	102	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.1	5.1
Vehicles Exited	658	658
Hourly Exit Rate	658	658
Input Volume	660	660
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2

Vehicles Exited	595	595
Hourly Exit Rate	595	595
Input Volume	590	590
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	572	572
Hourly Exit Rate	572	572
Input Volume	590	590
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.7	0	0.4
Total Del/Veh (s)	2.7	6	4.1
Vehicles Exited	773	584	1357
Hourly Exit Rate	773	584	1357
Input Volume	770	580	1350
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	129	129
Hourly Exit Rate	129	129
Input Volume	130	130

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

92: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	250	250
Hourly Exit Rate	250	250
Input Volume	240	240
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	601	601
Hourly Exit Rate	601	601
Input Volume	610	610
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	61	61
Hourly Exit Rate	61	61
Input Volume	60	60
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	60	60
Hourly Exit Rate	60	60
Input Volume	60	60
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

96: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1387	1387
Hourly Exit Rate	1387	1387
Input Volume	1390	1390
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	178	178
Hourly Exit Rate	178	178
Input Volume	170	170
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	530	530
Hourly Exit Rate	530	530
Input Volume	530	530
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	211	211
Hourly Exit Rate	211	211
Input Volume	210	210
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

100: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.7	2.1	1.8
Vehicles Exited	1262	474	1736
Hourly Exit Rate	1262	474	1736
Input Volume	1260	470	1730
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.4	1.4	1.4

Vehicles Exited	998	284	1282
Hourly Exit Rate	998	284	1282
Input Volume	1000	280	1280
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	590	590
Hourly Exit Rate	590	590
Input Volume	580	580
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

103: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	1390	1390
Hourly Exit Rate	1390	1390
Input Volume	1380	1380
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	903	903
Hourly Exit Rate	903	903
Input Volume	890	890

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	776	776
Hourly Exit Rate	776	776
Input Volume	760	760
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	1013	1013
Hourly Exit Rate	1013	1013
Input Volume	1010	1010
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	485	485
Hourly Exit Rate	485	485
Input Volume	490	490
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	460	460
Hourly Exit Rate	460	460
Input Volume	460	460
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

109: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	1.7	1.1
Vehicles Exited	1022	248	1270
Hourly Exit Rate	1022	248	1270
Input Volume	1020	250	1270
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	1062	1062
Hourly Exit Rate	1062	1062
Input Volume	1069	1069
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	851	851
Hourly Exit Rate	851	851
Input Volume	860	860
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	339	339
Hourly Exit Rate	339	339
Input Volume	340	340
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

113: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	1361	1361
Hourly Exit Rate	1361	1361
Input Volume	1350	1350
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6

Vehicles Exited	456	456
Hourly Exit Rate	456	456
Input Volume	460	460
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	237	237
Hourly Exit Rate	237	237
Input Volume	240	240
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	842	842
Hourly Exit Rate	842	842
Input Volume	840	840
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

117: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	504	504
Hourly Exit Rate	504	504
Input Volume	500	500

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

118: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	1	0.7
Vehicles Exited	1027	372	1399
Hourly Exit Rate	1027	372	1399
Input Volume	1021	370	1391
% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	460	460
Hourly Exit Rate	460	460
Input Volume	460	460
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.5	5.5
Vehicles Exited	383	383
Hourly Exit Rate	383	383
Input Volume	390	390
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

121: Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	1.5		1.3	1.5
Vehicles Exited	985	0	283	1268
Hourly Exit Rate	985	0	283	1268
Input Volume	980	0	290	1270
% of Volume	100	0	98	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

122: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	1736	1736
Hourly Exit Rate	1736	1736
Input Volume	1730	1730
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	90	90
Hourly Exit Rate	90	90
Input Volume	90	90
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

124: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	367	367
Hourly Exit Rate	367	367
Input Volume	370	370
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

125: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	76	76
Hourly Exit Rate	76	76
Input Volume	80	80
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	1612	1612
Hourly Exit Rate	1612	1612
Input Volume	1610	1610
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

127: NCC Performance by movement

Movement	WBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	4.7	0.8	1.2	2.9

Vehicles Exited	1390	42	1409	2841
Hourly Exit Rate	1390	42	1409	2841
Input Volume	1380	42	1400	2822
% of Volume	101	100	101	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

128: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	33	33
Hourly Exit Rate	33	33
Input Volume	31	31
% of Volume	107	107
Denied Entry Before	0	0
Denied Entry After	0	0

129: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.2	1.9	2.1
Vehicles Exited	1179	434	1613
Hourly Exit Rate	1179	434	1613
Input Volume	1171	440	1610
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	1270	1270
Hourly Exit Rate	1270	1270
Input Volume	1270	1270

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	631	631
Hourly Exit Rate	631	631
Input Volume	640	640
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	3.6	5.6	4.6
Vehicles Exited	1179	1240	2419
Hourly Exit Rate	1179	1240	2419
Input Volume	1180	1240	2420
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	1613	1613
Hourly Exit Rate	1613	1613
Input Volume	1610	1610
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

134: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.3	2.3	4.7
Vehicles Exited	692	799	1491
Hourly Exit Rate	692	799	1491
Input Volume	690	800	1490
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	1487	1487
Hourly Exit Rate	1487	1487
Input Volume	1490	1490
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

136: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.9	3.5	3.7
Vehicles Exited	551	480	1031
Hourly Exit Rate	551	480	1031
Input Volume	550	480	1030
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

137: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.9	0.9	3.1
Vehicles Exited	550	479	1029
Hourly Exit Rate	550	479	1029
Input Volume	550	480	1030
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

138: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	904	904
Hourly Exit Rate	904	904
Input Volume	900	900
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	621	621
Hourly Exit Rate	621	621
Input Volume	620	620
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

140: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9

Vehicles Exited	942	942
Hourly Exit Rate	942	942
Input Volume	940	940
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

141: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	60	60
Hourly Exit Rate	60	60
Input Volume	60	60
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

142: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	219	219
Hourly Exit Rate	219	219
Input Volume	220	220
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	402	402
Hourly Exit Rate	402	402
Input Volume	400	400

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.6	0.3
Total Del/Veh (s)	4	0.8	2.5
Vehicles Exited	662	599	1261
Hourly Exit Rate	662	599	1261
Input Volume	660	590	1251
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	135	135
Hourly Exit Rate	135	135
Input Volume	140	140
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

146: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	662	662
Hourly Exit Rate	662	662
Input Volume	660	660
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

147: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	2		1.4	1.9
Vehicles Exited	1179	0	261	1440
Hourly Exit Rate	1179	0	261	1440
Input Volume	1170	0	270	1440
% of Volume	101	0	97	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

148: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	688	688
Hourly Exit Rate	688	688
Input Volume	680	680
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

149: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	520	520
Hourly Exit Rate	520	520
Input Volume	510	510
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	122	122
Hourly Exit Rate	122	122
Input Volume	121	121
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

151: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	1440	1440
Hourly Exit Rate	1440	1440
Input Volume	1440	1440
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

153: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	31	31
Hourly Exit Rate	31	31
Input Volume	31	31
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	6.9	3.7	5.3

Vehicles Exited	1192	1259	2451
Hourly Exit Rate	1192	1259	2451
Input Volume	1179	1240	2419
% of Volume	101	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	77	77
Hourly Exit Rate	77	77
Input Volume	80	80
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

156: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	394	394
Hourly Exit Rate	394	394
Input Volume	401	401
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

157: Crane Rd Performance by movement

Movement	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0
Total Del/Veh (s)	0.6	0.6	1.8	1.5	1.3
Vehicles Exited	121	22	204	10	357
Hourly Exit Rate	121	22	204	10	357
Input Volume	120	20	200	10	351

% of Volume	101	109	102	98	102
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

158: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	10	10
Hourly Exit Rate	10	10
Input Volume	10	10
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

159: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	23	23
Hourly Exit Rate	23	23
Input Volume	20	20
% of Volume	114	114
Denied Entry Before	0	0
Denied Entry After	0	0

160: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1	5.8	3.4
Vehicles Exited	1406	1392	2798
Hourly Exit Rate	1406	1392	2798
Input Volume	1400	1380	2780
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

161: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.4	2.9	3.1
Vehicles Exited	835	913	1748
Hourly Exit Rate	835	913	1748
Input Volume	830	900	1730
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

163: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	882	882
Hourly Exit Rate	882	882
Input Volume	880	880
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

164: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	670	670
Hourly Exit Rate	670	670
Input Volume	660	660
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

165: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	750	750
Hourly Exit Rate	750	750
Input Volume	750	750
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	29	29
Hourly Exit Rate	29	29
Input Volume	31	31
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	40	40
Hourly Exit Rate	40	40
Input Volume	41	41
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1

Vehicles Exited	40	40
Hourly Exit Rate	40	40
Input Volume	41	41
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

172: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	265	265
Hourly Exit Rate	265	265
Input Volume	260	260
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	74	74
Hourly Exit Rate	74	74
Input Volume	70	70
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	234	234
Hourly Exit Rate	234	234
Input Volume	240	240

% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	80	80
Hourly Exit Rate	80	80
Input Volume	80	80
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

177: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	316	316
Hourly Exit Rate	316	316
Input Volume	320	320
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

178: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	31	31
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

179: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.8	7.8
Vehicles Exited	1750	1750
Hourly Exit Rate	1750	1750
Input Volume	1760	1760
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	110	110
Hourly Exit Rate	110	110
Input Volume	110	110
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	112	112
Hourly Exit Rate	112	112
Input Volume	110	110
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	515	515
Hourly Exit Rate	515	515
Input Volume	510	510
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	71	71
Hourly Exit Rate	71	71
Input Volume	70	70
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

184: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	28	28
Hourly Exit Rate	28	28
Input Volume	31	31
% of Volume	91	91
Denied Entry Before	0	0
Denied Entry After	0	0

185: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6

Vehicles Exited	708	708
Hourly Exit Rate	708	708
Input Volume	690	690
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

186: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	1.8	0.1	1.1
Vehicles Exited	316	201	517
Hourly Exit Rate	316	201	517
Input Volume	320	200	520
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

187: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	1192	1192
Hourly Exit Rate	1192	1192
Input Volume	1179	1179
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

188: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.3	5.7	5.1
Vehicles Exited	692	802	1494
Hourly Exit Rate	692	802	1494
Input Volume	690	800	1490

% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

189: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	42	42
Hourly Exit Rate	42	42
Input Volume	41	41
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

190: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.3	0.2	0.2	1
Vehicles Exited	1021	1	366	1388
Hourly Exit Rate	1021	1	366	1388
Input Volume	1020	1	370	1391
% of Volume	100	100	99	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

191: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	366	366
Hourly Exit Rate	366	366
Input Volume	370	370
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	1360	1360
Hourly Exit Rate	1360	1360
Input Volume	1350	1350
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	602	602
Hourly Exit Rate	602	602
Input Volume	600	600
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

300: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.6	2.5	3.2
Vehicles Exited	1271	918	2189
Hourly Exit Rate	1271	918	2189
Input Volume	1270	900	2170
% of Volume	100	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	1281	1281
Hourly Exit Rate	1281	1281
Input Volume	1280	1280
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

500: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.3	0	0.2
Total Del/Veh (s)	1.5	2.2	1.8
Vehicles Exited	888	670	1558
Hourly Exit Rate	888	670	1558
Input Volume	880	660	1540
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	36.6
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	24
Denied Entry Before	1
Denied Entry After	0

2042 Altern ########

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	92	209	230	244	107	179	180	197	213	61	127	189	108	127
Average Queue (ft)	31	125	132	124	45	83	70	96	114	19	51	77	38	53
95th Queue (ft)	73	193	203	204	86	150	148	170	191	49	104	151	83	107
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	530				410	580				530	330		300	
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	L	T	T	TR
Maximum Queue (ft)	60	244	527	333	131	144	187	178	147	152	181	56	102	118	112	90	77	49	97	97	87	57
Average Queue (ft)	18	116	159	177	49	42	95	103	56	72	83	13	42	54	56	37	29	7	37	39	29	13
95th Queue (ft)	49	214	409	287	103	120	162	160	113	130	145	40	84	97	100	68	63	31	78	73	64	40
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923		3946	3946	3946
Upstream Blk Time (%)																						
Queuing Penalty (veh)																						
Storage Bay Dist (ft)	715				355	920	920	920				750	800						550			
Storage Blk Time (%)				0																		
Queuing Penalty (veh)				1																		

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	308	472	85	357	220	128	240	214	337	404	372
Average Queue (ft)	203	148	12	171	59	51	120	111	225	167	178
95th Queue (ft)	325	391	52	298	161	103	193	180	354	380	300
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				0							

Queuing Penalty (veh)				0					
Storage Bay Dist (ft)	250		90		160	185		290	
Storage Blk Time (%)	12	0	0	31		0	2	9	0
Queuing Penalty (veh)	23	1	1	31		0	1	20	0

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	131	155	228	205
Average Queue (ft)	57	77	89	62
95th Queue (ft)	111	139	193	158
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	359	156	14	167
Average Queue (ft)	178	65	0	72
95th Queue (ft)	322	120	14	135
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		530		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	L	T	T	T	>
Maximum Queue (ft)	129	128	224	118	137	208	155	144	139	128	131	140	96	146	166	106	121
Average Queue (ft)	47	60	105	55	67	95	62	71	70	46	56	64	39	72	79	31	44

95th Queue (ft)	98	105	183	100	113	166	123	125	118	102	110	121	81	126	138	82	88
Link Distance (ft)			1111			1079		737	737	737	737			1039	1039	1039	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300	300		300	300		700					300	550				650
Storage Blk Time (%)			0			0											
Queuing Penalty (veh)			0			0											

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	153	280	433	459	476	327	147	154	171	183	176	139	182	230	280	304	298	223	265	295	287	299	298
Average Queue (ft)	77	132	261	281	283	147	67	80	100	112	74	36	93	113	172	199	179	84	166	201	175	179	172
95th Queue (ft)	134	315	488	497	518	341	122	130	152	166	140	102	161	187	252	278	264	186	247	274	254	267	271
Link Distance (ft)			4930	4930	4930				3510	3510	3510				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)																							
Queuing Penalty (veh)																							
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)		0	9		10	0							0	0	2		5	0					
Queuing Penalty (veh)		0	24		34	0							0	1	4		9	0					

Intersection: 8: Coffee Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	110	144	168	91	104	76	182	58	54	103	62	93	77	91
Average Queue (ft)	39	63	71	32	50	18	85	20	10	33	14	38	23	34
95th Queue (ft)	90	113	135	72	89	55	151	47	35	77	43	74	59	74
Link Distance (ft)		860	860		880	880		902	902			950	950	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	500			500			600			600	650			650
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB

Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	170	215	336	298	187	191	129	172	157	114	186	219	209	168	108	151	114	198
Average Queue (ft)	63	117	204	163	63	83	60	97	90	38	76	135	106	80	52	75	27	90
95th Queue (ft)	147	184	296	257	155	153	112	147	143	84	166	202	177	145	99	131	77	162
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)			1										0					
Queuing Penalty (veh)			1										0					

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	169	241	266	186	184	119	135	201	140	237	101	108	88
Average Queue (ft)	74	132	140	95	107	49	57	100	48	124	42	44	33
95th Queue (ft)	140	218	234	158	166	95	113	176	101	209	88	90	70
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								1			0	3	0
Queuing Penalty (veh)								0			0	4	0

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	136	76	105	195	264	39	131	183	204	139	107	180	241
Average Queue (ft)	48	18	42	76	140	6	50	87	103	74	44	79	122
95th Queue (ft)	103	53	80	167	226	25	102	154	170	116	91	147	210
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		
Storage Blk Time (%)					0								
Queuing Penalty (veh)					0								

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	123	156	162	130	64	149	105	24	50	158	186	186	180	45	280	244	81
Average Queue (ft)	26	75	80	28	17	75	29	2	12	71	112	100	83	10	167	107	32
95th Queue (ft)	80	134	138	81	49	127	74	13	36	138	167	156	147	36	249	208	62
Link Distance (ft)		1374	1374	1374		1274	1274	1274			2052	2052	2052		556	556	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)															0	0	
Queuing Penalty (veh)															0	0	

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	292	286	122	201	154	150	377	234	446	160
Average Queue (ft)	163	155	30	94	52	46	174	148	161	73
95th Queue (ft)	263	262	83	174	109	104	304	246	352	153
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			2	20	0		4	7	13	0
Queuing Penalty (veh)			4	31	0		2	22	48	1

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	57	83	82	53	85	52	86	9	7	44	7	21
Average Queue (ft)	16	28	36	13	32	12	30	0	0	8	0	1
95th Queue (ft)	44	63	67	38	63	35	67	5	1	31	4	7
Link Distance (ft)		1163			1019			1058	1058		414	414
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300	300		300	300			300		

Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	131	135	66	64	57	70	63
Average Queue (ft)	65	62	21	21	12	25	24
95th Queue (ft)	108	113	53	50	41	59	52
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		300	400				150
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	148	162	202	230	243	174	139	161	162	197	213	205	76	187	220	219	89	85	198	32	64	148	143	165
Average Queue (ft)	76	91	108	122	137	84	61	80	92	100	111	90	20	71	117	119	31	28	86	3	17	65	54	68
95th Queue (ft)	134	148	187	203	219	144	119	139	147	164	184	172	50	168	198	194	66	67	163	17	45	124	117	133
Link Distance (ft)			1066	1066	1066				1590	1590	1590	1590				1090	1090	1090				1217	1217	
Upstream Blk Time (%)																								
Queuing Penalty (veh)																								
Storage Bay Dist (ft)	800	800				1000	970	970					850	720	720				1000	520	520			720
Storage Blk Time (%)																								
Queuing Penalty (veh)																								

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	LT	R
Maximum Queue (ft)	59	1	16	2	49	65	72	104
Average Queue (ft)	11	0	1	0	8	19	31	48
95th Queue (ft)	38	1	7	2	32	51	62	80
Link Distance (ft)		2871		5344		1572	797	

Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	300	300	200	300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Bentley & Claribel

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	28	35	75	56	71	55
Average Queue (ft)	1	5	27	11	24	11
95th Queue (ft)	14	22	59	38	57	41
Link Distance (ft)	2720	2487	1498		1216	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			4	1	4	1
Queuing Penalty (veh)			0	0	0	0

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	110	153	170	78	215	161	105	114	102	59	66
Average Queue (ft)	44	56	69	25	107	64	49	47	46	19	34
95th Queue (ft)	86	114	136	60	176	123	90	90	85	48	62
Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)					0				0	0	0
Queuing Penalty (veh)					0				0	0	0

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	255	226	77	295	252	293	296	70	452	380

Average Queue (ft)	82	112	110	19	135	108	165	169	22	263	209
95th Queue (ft)	125	209	186	56	242	196	252	262	59	399	325
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	43	28	0		1			0			
Queuing Penalty (veh)	141	82	1		0			1			

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	125	124	158	135	122	152	87	135	196	109	116	160	141
Average Queue (ft)	49	49	57	60	54	59	25	60	69	58	37	66	45
95th Queue (ft)	96	97	114	109	99	118	64	111	142	105	81	126	93
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)								0	15	4	0	3	0
Queuing Penalty (veh)								0	46	11	0	5	0

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	130	165	53	46	68	130	111	263	284	326	208	190
Average Queue (ft)	52	60	9	8	17	61	26	132	124	168	66	88
95th Queue (ft)	107	122	34	30	48	106	74	224	227	278	148	162
Link Distance (ft)		5602			2237			1498			2124	2124
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	225		225	400		300	400		
Storage Blk Time (%)		0						0	0	0		
Queuing Penalty (veh)		0						0	0	0		

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	45	147	83	72	138	106	174	162	55	197	177	49
Average Queue (ft)	8	60	28	20	52	38	83	49	10	100	62	9
95th Queue (ft)	31	117	60	55	105	81	148	113	37	168	138	34
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)					0							
Queuing Penalty (veh)					0							

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	113	182	147	111	126	173	41	129	118	119	98	86	141	168	123	131
Average Queue (ft)	46	96	67	39	54	82	7	59	39	56	49	23	65	82	36	56
95th Queue (ft)	95	151	121	84	100	142	29	104	88	104	81	62	122	142	94	102
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	600				700	600				600
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 25: Roselle & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	58	38	199	71	83	110	111	160	109	91	87	107	103	32
Average Queue (ft)	16	4	103	17	38	44	42	53	14	25	26	45	38	3
95th Queue (ft)	43	22	175	48	70	92	94	117	60	67	64	88	84	15
Link Distance (ft)			1221		1142	1142		671	671			1058	1058	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	500	500		500			550			550	275			275
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 26: Crane Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L	T	R	L	T	R	R
Maximum Queue (ft)	204	205	123	142	113	44	178	167	185	182	60	36	87	62	88	86	117	138
Average Queue (ft)	105	119	54	60	37	5	81	87	89	89	15	8	22	18	22	31	51	66
95th Queue (ft)	177	185	101	116	90	23	143	144	150	152	46	27	59	42	65	69	94	117
Link Distance (ft)		1598	1598	1598	1598			1342	1342	1342			914			2754	2754	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	750					630	930				630	150		300	200			350
Storage Blk Time (%)																		
Queuing Penalty (veh)																		

Intersection: 27: Albers Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T	T	R	L	T	T	R	R
Maximum Queue (ft)	212	203	97	110	33	147	145	106	104	37	45	180	186	127	106	232	205	100	92
Average Queue (ft)	105	101	33	33	3	75	71	37	47	3	9	84	95	52	43	133	88	49	41
95th Queue (ft)	174	167	74	80	16	133	123	83	90	17	33	154	162	101	88	208	167	85	79
Link Distance (ft)		1588	1588	1588				4498	4498			2124	2124			2210	2210		
Upstream Blk Time (%)																			
Queuing Penalty (veh)																			
Storage Bay Dist (ft)	750				750	720	720			670	200			300	200			500	500
Storage Blk Time (%)												0				1			
Queuing Penalty (veh)												0				0			

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	LT	TR	LT	TR
Maximum Queue (ft)	68	41	65	55	43	40	73
Average Queue (ft)	9	4	21	7	2	5	21
95th Queue (ft)	41	23	55	33	19	25	59
Link Distance (ft)	2814	2814	3932	283	283	838	838
Upstream Blk Time (%)							
Queuing Penalty (veh)							

Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	TR	LT	R	LTR
Maximum Queue (ft)	156	71	103	17	57	72	89
Average Queue (ft)	65	3	37	1	15	9	22
95th Queue (ft)	120	39	83	11	44	43	63
Link Distance (ft)	2212	2212	1153	1153	3932	3932	267
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	84	102	54	67	117	112	130	128	49	59	128	101	102	50
Average Queue (ft)	25	37	14	19	47	34	48	50	5	15	58	36	37	8
95th Queue (ft)	62	75	41	48	91	84	102	106	26	44	104	81	81	32
Link Distance (ft)		882		1203		1039	1039	1039			2422	2422	2422	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	300		300		300				300	300				300
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	128	93	82	112	72	213	256	58	61	87	158	178	55
Average Queue (ft)	52	34	26	35	28	98	117	11	10	38	63	79	16
95th Queue (ft)	104	73	63	80	61	179	210	39	40	74	126	142	45

Link Distance (ft)		429		638		834	834			757	757	757
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			400	450	450		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	R
Maximum Queue (ft)	40	60	53	56	32	8	6	10	31	2	5
Average Queue (ft)	8	14	14	12	3	0	0	0	3	0	0
95th Queue (ft)	30	45	41	39	18	5	6	7	19	2	5
Link Distance (ft)		1243		2059		950	950			1333	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300		300		300			300	300		300
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	L	R
Maximum Queue (ft)	71	62	47	70	19	0	38	2
Average Queue (ft)	19	16	9	24	2	0	5	0
95th Queue (ft)	51	45	32	58	12	1	22	2
Link Distance (ft)		755		1093		1259		
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	300		300		300		300	300
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T

Maximum Queue (ft)	64	73	47	86	44	4	5	8	51	3	3
Average Queue (ft)	18	25	9	21	12	0	0	0	15	0	0
95th Queue (ft)	51	60	34	62	39	3	3	3	40	2	2
Link Distance (ft)		636		496		370	370			1357	1357
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300		300		300			300	300		
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	75	78	154	138	72	77	98
Average Queue (ft)	28	26	59	46	28	17	39
95th Queue (ft)	63	63	126	104	61	55	88
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Davis & Claribel Realigned (N)

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	68	64	18	2	14	2
Average Queue (ft)	23	24	1	0	0	0
95th Queue (ft)	55	55	8	0	6	2
Link Distance (ft)	662	702		778		1110
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			50		50	
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	94	60	192	65	110	122	88	95	119
Average Queue (ft)	32	13	91	21	45	62	29	31	45
95th Queue (ft)	71	43	161	54	92	108	67	73	95
Link Distance (ft)		1110	417		1217	1217		1028	1028
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	T	T	R	L	L	T	T
Maximum Queue (ft)	90	128	202	234	79	111	132	96	111
Average Queue (ft)	32	52	95	115	27	51	73	24	48
95th Queue (ft)	71	101	168	200	66	100	118	71	97
Link Distance (ft)	437		1878	1878				841	841
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		300			300	890	890		
Storage Blk Time (%)				0					
Queuing Penalty (veh)				0					

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (ft)	74	97	12	64
Average Queue (ft)	25	52	0	13
95th Queue (ft)	57	83	6	45
Link Distance (ft)	838	838	795	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)				

Queuing Penalty (veh)

Intersection: 56: NCC SPUI

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 57:

Movement	B299	B299
Directions Served	T	
Maximum Queue (ft)	71	27
Average Queue (ft)	4	1
95th Queue (ft)	37	15
Link Distance (ft)	377	377
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 58:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	

Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 62: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 63: NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 72:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)

95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 77:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 81:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 84: NCC SPUI

Movement

Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 90: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	45
Average Queue (ft)	2
95th Queue (ft)	46
Link Distance (ft)	586
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 100: NCC SPUI

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 109:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 118: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)

Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 121:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 127: NCC

Movement	B160
Directions Served	T
Maximum Queue (ft)	9
Average Queue (ft)	0
95th Queue (ft)	5
Link Distance (ft)	1066
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 129: NCC SPUI & NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)

Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 147:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 154: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	2
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	1590
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 157: Crane Rd

Movement
Directions Served
Maximum Queue (ft)

Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 186: Bend

Movement	EB	EB
Directions Served	T	
Maximum Queue (ft)	16	15
Average Queue (ft)	1	1
95th Queue (ft)	12	9
Link Distance (ft)	437	437
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 190:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary
Network wide Queuing Penalty: 554

SimTraffic Performance Report
2022 Alternate 1B AM Peak Hour
9/11/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.4	0.1	1.3	0	0	0	2.1	0.5	0.4	2.4	0.2	0.2	0.3
Total Del/Veh (s)	34.1	25.7	7.8	37.9	22.9	10.3	32.4	20.2	6.2	35.7	30.8	16.1	24.9
Vehicles Exited	36	641	111	195	1004	52	177	63	20	21	124	42	2486
Hourly Exit Rate	36	641	111	195	1004	52	177	63	20	21	124	42	2486
Input Volume	40	640	110	190	990	50	180	60	20	20	120	40	2461
% of Volume	91	100	101	102	101	104	98	105	99	104	103	106	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	36.1	23.8	15.6	28.4	14.3	3.2	23.8	16.8	2.3	28.6	22.5	8.4	18.4
Vehicles Exited	33	450	201	396	1102	21	87	75	127	30	101	56	2679
Hourly Exit Rate	33	450	201	396	1102	21	87	75	127	30	101	56	2679
Input Volume	30	452	200	390	1090	20	90	70	120	30	100	50	2641
% of Volume	111	100	101	102	101	104	97	107	106	101	101	112	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	0	0	0	0	0	0	0.3	0.1	0.1	0.1
Total Del/Veh (s)	42.2	18.5	8.5	52.3	32.9	9.8	50	30.2	19.7	47.1	29.8	23.6	29.2
Vehicles Exited	129	71	41	9	375	137	23	299	10	70	408	204	1776
Hourly Exit Rate	129	71	41	9	375	137	23	299	10	70	408	204	1776
Input Volume	130	70	40	10	370	130	20	290	10	70	410	200	1752
% of Volume	99	101	103	88	101	105	114	103	98	100	99	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	16.5	5.1	8.7	0.1	12.8	11.6
Vehicles Exited	260	12	320	70	458	1120
Hourly Exit Rate	260	12	320	70	458	1120
Input Volume	260	10	310	70	462	1113
% of Volume	100	117	103	100	99	101
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	0.7	0.7	0	0.5
Total Del/Veh (s)	9.1	3.8	16.3	4.9	3.3	8.4
Vehicles Exited	143	11	262	518	70	1004
Hourly Exit Rate	143	11	262	518	70	1004
Input Volume	144	10	260	510	70	994
% of Volume	100	107	101	102	100	101
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	15.8	0	18.2	19	19.3	18.7	12	4.3	16.3	13.4	6.7	14
Vehicles Exited	29	1	98	250	193	89	282	90	40	497	209	1778
Hourly Exit Rate	29	1	98	250	193	89	282	90	40	497	209	1778
Input Volume	30	1	100	260	190	90	281	90	40	501	210	1791
% of Volume	97	133	98	96	101	99	100	100	101	99	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.1	0.4	0.1	0.2	0.3	0.1	0.1	2.8	0.1	0.2	0.2
Total Del/Veh (s)	45.8	30.2	6.3	47.1	34.9	11	47.5	30.1	7.7	41.9	28.2	13.4	30.1
Vehicles Exited	251	575	174	191	914	277	194	660	153	94	631	143	4257
Hourly Exit Rate	251	575	174	191	914	277	194	660	153	94	631	143	4257
Input Volume	260	600	180	190	920	280	190	660	150	100	620	140	4290
% of Volume	97	96	97	100	99	99	102	100	102	94	102	102	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

8: Coffee Rd Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	21.3	0.1	13.4	19.3	0.1	24.1	18.8	4.7	2.5	25.2	14.4	8.9	13.1
Vehicles Exited	49	3	51	304	10	20	251	168	176	18	264	276	1590
Hourly Exit Rate	49	3	51	304	10	20	251	168	176	18	264	276	1590
Input Volume	50	2	50	300	9	20	250	171	180	20	271	270	1594
% of Volume	98	150	102	101	108	99	100	98	98	89	98	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.9	0.1	2.9	0.9	0.1	0.1	2.8	0.1	0.1	3	0.1	3	1
Total Del/Veh (s)	35.2	19.6	6.6	34.4	27.3	8.4	29.4	14.4	7.1	36.1	28.7	8.1	22.2
Vehicles Exited	143	381	225	65	801	61	339	415	58	29	392	207	3116
Hourly Exit Rate	143	381	225	65	801	61	339	415	58	29	392	207	3116
Input Volume	150	380	220	70	800	60	360	410	60	30	390	210	3140
% of Volume	95	100	102	93	100	102	94	101	97	97	101	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.7	0.1	0.1	0.3	0.1	0.1	1.5	0.2	0.1	1.7	0.4	1.7	0.5
Total Del/Veh (s)	44.3	11	3.6	40.4	11.3	7.2	40.6	31	31	42.1	36.9	7.3	21.4

Vehicles Exited	28	169	25	153	499	41	118	54	87	49	59	106	1388
Hourly Exit Rate	28	169	25	153	499	41	118	54	87	49	59	106	1388
Input Volume	30	170	20	150	500	40	120	50	80	50	60	100	1369
% of Volume	94	99	123	102	100	103	98	108	108	98	98	106	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.3	0.1	0.4	0.2	3.4	0	0	0	0.2	0.1	0.1	0.4
Total Del/Veh (s)	23.6	34.8	7.5	24.2	38.3	3.6	35.3	18.8	6.3	35.4	20	15.4	18.8
Vehicles Exited	80	29	86	395	9	54	30	217	233	40	454	44	1671
Hourly Exit Rate	80	29	86	395	9	54	30	217	233	40	454	44	1671
Input Volume	80	30	80	390	10	50	30	220	230	40	450	40	1650
% of Volume	100	97	107	101	88	108	101	99	101	101	101	111	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	3.4	3.7	0.1	4	0.3	0.1	0.2	2.8	0.3	2.9	0.8
Total Del/Veh (s)	49.2	21.8	1.9	39.2	31.4	3.3	31	8	2.8	37.5	28.6	6.6	22.6
Vehicles Exited	154	102	196	8	175	10	540	356	19	9	596	271	2436
Hourly Exit Rate	154	102	196	8	175	10	540	356	19	9	596	271	2436
Input Volume	160	100	200	10	180	10	550	350	20	10	600	270	2460
% of Volume	96	102	98	78	97	98	98	102	94	88	99	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.4	0.3	0.3	3.7	0.4	0.4	2.1	0.7	2	0.9
Total Del/Veh (s)	34.5	19.1	8.3	44.1	30.1	10.9	25.9	30.5	20.2	28.5	27.7	7.4	23.3
Vehicles Exited	121	107	24	19	222	175	50	195	41	133	132	184	1403
Hourly Exit Rate	121	107	24	19	222	175	50	195	41	133	132	184	1403
Input Volume	120	110	20	20	230	170	50	190	40	140	130	180	1401

% of Volume	101	97	119	94	97	103	100	102	103	95	101	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.5	3.8	4.2	0.3	4	0	0	0	0	0	0	0.8
Total Del/Veh (s)	11.2	11.5	4.5	9.3	13.2	2	5.5	2.8	1.6	2.8	0.6	0.2	3.4
Vehicles Exited	28	48	135	9	49	32	18	262	19	20	363	11	994
Hourly Exit Rate	28	48	135	9	49	32	18	262	19	20	363	11	994
Input Volume	30	50	140	10	50	30	20	270	20	20	360	10	1012
% of Volume	94	96	96	88	98	108	89	97	94	99	101	107	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.2	4	0.2
Total Del/Veh (s)	8.5	3.4	12.1	4.6	8.7	2.4	5.9
Vehicles Exited	123	119	79	392	57	31	801
Hourly Exit Rate	123	119	79	392	57	31	801
Input Volume	120	120	80	390	60	30	800
% of Volume	102	99	98	101	95	104	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	28	22.3	3.9	27.8	18.5	3.7	34.7	20.1	4.6	29.3	35.5	11.5	20.4
Vehicles Exited	167	841	154	218	791	40	225	116	220	52	156	257	3237
Hourly Exit Rate	167	841	154	218	791	40	225	116	220	52	156	257	3237
Input Volume	160	860	150	220	800	40	230	120	220	50	160	250	3260
% of Volume	105	98	103	99	99	101	98	96	100	104	98	103	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2	0.3	0.3	0.2	0.2	0.2	2	0.1	0.1	0	0	0.1	0.7
Total Del/Veh (s)	1.8	1.3	0.6	1	2	1.3	6	7.7	2.9	5.8	8.9	1.9	2.5
Vehicles Exited	113	47	11	9	111	38	10	8	11	39	10	10	417
Hourly Exit Rate	113	47	11	9	111	38	10	8	11	39	10	10	417
Input Volume	110	50	10	10	120	40	10	10	10	40	11	10	432
% of Volume	103	94	107	88	92	96	98	78	107	98	89	98	96
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.1	4.2	0.2	0.2	4.1	0.5
Total Del/Veh (s)	2.9	1	0.5	1.3	1.6	0.8	5.2	8.6	2.3	6.4	9.5	3.1	2.4
Vehicles Exited	9	94	13	19	221	20	21	10	10	9	28	22	476
Hourly Exit Rate	9	94	13	19	221	20	21	10	10	9	28	22	476
Input Volume	10	100	10	20	220	20	20	10	10	10	30	20	482
% of Volume	88	94	127	94	100	99	104	98	98	88	94	109	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.5	0.5	0.5	3.9	0.3	0.4	2	0.5	2	0.8
Total Del/Veh (s)	21.7	9.5	5.2	22.7	13	6.7	17.1	13	4.6	18.2	13.8	5	11.8
Vehicles Exited	70	384	53	38	360	75	84	56	22	102	59	143	1446
Hourly Exit Rate	70	384	53	38	360	75	84	56	22	102	59	143	1446
Input Volume	70	380	50	40	360	70	90	60	20	110	60	140	1450
% of Volume	100	101	106	96	100	107	94	93	109	93	98	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.5	0.5	0.3	0.1	0.1	1.8	0.5	1.7	0.1	0.1	0.2	0.4
Total Del/Veh (s)	51.6	32.2	22.4	41.1	40.2	8.7	33.4	34.7	6.8	43.4	38.2	31.8	33.3
Vehicles Exited	108	284	64	78	273	271	90	285	71	262	387	73	2246
Hourly Exit Rate	108	284	64	78	273	271	90	285	71	262	387	73	2246
Input Volume	110	280	60	80	270	270	100	290	70	260	390	70	2250
% of Volume	98	101	107	97	101	100	90	98	101	101	99	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.7	0.1	0.2	0.3	0.1	0.1	2.1	0.6	2	0.3	0.3	0.3	0.6
Total Del/Veh (s)	32.8	19	9.2	28.6	14.7	7.5	27.5	18.5	5.5	32.2	26.7	9	19.4
Vehicles Exited	51	251	148	152	316	40	259	110	80	33	154	100	1694
Hourly Exit Rate	51	251	148	152	316	40	259	110	80	33	154	100	1694
Input Volume	50	250	150	150	320	40	260	110	80	30	150	100	1688
% of Volume	102	100	99	102	99	101	100	100	100	111	103	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.2	3.7	0.9	3.6	3.3	1.4	3.5	0	0	0	1.1
Total Del/Veh (s)	29.9	31.4	5.7	33	25.4	8	33.4	21.7	11.3	35.5	17.3	12.3	19.1
Vehicles Exited	30	31	30	11	72	244	19	554	11	92	506	74	1674
Hourly Exit Rate	30	31	30	11	72	244	19	554	11	92	506	74	1674
Input Volume	30	30	30	10	70	240	20	560	10	90	500	70	1660
% of Volume	101	104	101	107	102	102	94	99	107	103	101	105	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4	0.4	4	2.5	0.3	0.3	3.3	0.1	0.2	3.3	0.2	3.1	0.6
Total Del/Veh (s)	27.4	21.1	4.1	29.1	24.1	12.4	26.4	10.5	4.1	32.1	15.2	5.9	15.1

Vehicles Exited	30	37	47	27	167	12	55	455	32	10	539	32	1443
Hourly Exit Rate	30	37	47	27	167	12	55	455	32	10	539	32	1443
Input Volume	30	40	50	30	170	10	60	460	30	10	520	30	1439
% of Volume	101	93	94	91	98	117	92	99	108	98	104	108	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	15.4	0.1	19	16.9	21	20.5	5.9	5.1	22.8	8.6	6.8	8.7
Vehicles Exited	51	2	32	180	28	28	399	388	30	559	347	2044
Hourly Exit Rate	51	2	32	180	28	28	399	388	30	559	347	2044
Input Volume	50	1	30	180	30	30	400	390	30	550	340	2030
% of Volume	102	267	108	100	94	94	100	99	101	102	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

25: Roselle & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	14.4	0	13.7	16.1	0.3	15	16.2	6.6	3.7	19.9	10.8	3.7	10.5
Vehicles Exited	8	2	94	148	1	39	150	253	190	41	417	50	1393
Hourly Exit Rate	8	2	94	148	1	39	150	253	190	41	417	50	1393
Input Volume	10	1	90	150	1	40	150	260	190	40	421	50	1402
% of Volume	78	200	105	99	133	98	100	97	100	103	99	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

26: Crane Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	14.7	5.7	1	28	18.2	5.5	28.2	22.2	3.2	27.7	23.6	6.1	10.6
Vehicles Exited	494	611	11	30	375	11	9	30	71	17	30	676	2365
Hourly Exit Rate	494	611	11	30	375	11	9	30	71	17	30	676	2365
Input Volume	500	620	10	30	380	10	10	30	70	20	30	670	2380

% of Volume	99	99	107	101	99	107	88	101	101	84	101	101	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

27: Albers Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	24.4	14.8	3.9	30	25.1	9	41.7	23.8	9.5	34.7	18.1	3.7	19.5
Vehicles Exited	552	103	40	180	130	11	9	621	203	10	451	278	2588
Hourly Exit Rate	552	103	40	180	130	11	9	621	203	10	451	278	2588
Input Volume	570	101	40	180	130	10	10	622	200	10	440	280	2593
% of Volume	97	102	101	100	100	107	88	100	102	98	103	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

28: STERNS & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	10.1	3.9	1.1	13.9	10.1	3.5	8.3	11.2	2.5	7.2	9.4	3.8	7.2
Vehicles Exited	106	196	13	9	212	10	25	8	10	11	11	85	696
Hourly Exit Rate	106	196	13	9	212	10	25	8	10	11	11	85	696
Input Volume	110	190	10	10	210	10	30	10	10	10	10	80	692
% of Volume	96	103	127	88	101	98	84	78	98	107	107	106	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.2	0.2	0	0	0	0	0	0.1
Total Del/Veh (s)	7.7	3.7	3.5	7.5	0.9	0.5	2.8	5
Vehicles Exited	148	71	160	163	19	2	197	760
Hourly Exit Rate	148	71	160	163	19	2	197	760
Input Volume	150	70	160	160	20	1	190	751
% of Volume	99	101	100	102	94	160	104	101
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4	0.2	0.2	4.2	0.1	0.1	0	0	0	1.6	0.1	1.6	0.2
Total Del/Veh (s)	16.8	11.8	3.9	15	15.5	3.4	13.6	4.4	2.6	17	5.2	2.5	5.8
Vehicles Exited	19	10	18	10	10	12	78	416	11	10	718	12	1324
Hourly Exit Rate	19	10	18	10	10	12	78	416	11	10	718	12	1324
Input Volume	20	10	20	10	10	10	80	411	10	10	720	10	1323
% of Volume	94	98	89	98	98	117	97	101	107	98	100	117	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.2	0.2	4.1	0.2	0.2	3.4	0.2	3.4	0	0	0	0.3
Total Del/Veh (s)	18.4	15.8	5.1	16.6	15.1	4.8	14.5	3.7	1.4	14.7	4.8	1.2	5.3
Vehicles Exited	20	10	20	28	9	42	30	397	23	29	776	42	1426
Hourly Exit Rate	20	10	20	28	9	42	30	397	23	29	776	42	1426
Input Volume	20	10	20	30	10	40	30	400	20	30	790	40	1440
% of Volume	99	98	99	94	88	106	101	99	114	97	98	106	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.4	0.1	0.1	0.1	0.1	0.1	0	0	0	3.3	0.2	3.1	0.3
Total Del/Veh (s)	9.2	13	4.2	9.6	11.3	2.2	4.1	1.6	1	1.5	0.6	1.8	1.6
Vehicles Exited	10	11	11	19	10	13	10	217	10	11	526	11	859
Hourly Exit Rate	10	11	11	19	10	13	10	217	10	11	526	11	859
Input Volume	10	10	10	20	10	10	10	221	10	10	530	10	864
% of Volume	98	107	107	94	98	127	98	98	98	107	99	107	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.2	0.1	0.1	4.3	0.1	0.2	3.3	0.2	2.9	0	0	0	0.2
Total Del/Veh (s)	22.3	14.5	4.6	15.1	18.3	6	4.3	0.7	1.4	6.5	2.6	2.4	2.5
Vehicles Exited	18	10	12	8	12	21	8	557	10	21	578	20	1275
Hourly Exit Rate	18	10	12	8	12	21	8	557	10	21	578	20	1275
Input Volume	20	10	10	10	10	20	10	560	10	20	581	20	1283
% of Volume	89	98	117	78	117	104	78	100	98	104	99	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4	0.2	0.2	4.1	0.2	0.2	2.5	0.4	3	0	0	0	0.3
Total Del/Veh (s)	40	24.1	6.9	21	30.3	9.3	5.4	0.8	0.4	7.8	2.9	1.4	3.3
Vehicles Exited	28	10	28	20	11	20	11	764	11	10	748	12	1673
Hourly Exit Rate	28	10	28	20	11	20	11	764	11	10	748	12	1673
Input Volume	30	10	30	20	10	20	10	770	10	10	740	10	1672
% of Volume	94	98	94	99	107	99	107	99	107	98	101	117	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	2.2	0.2	0.2	0.2	0	0	0.1
Total Del/Veh (s)	12.5	5	4.2	2.1	12.5	4.8	4.8
Vehicles Exited	18	99	493	22	21	638	1291
Hourly Exit Rate	18	99	493	22	21	638	1291
Input Volume	20	100	500	20	20	640	1301
% of Volume	89	99	99	109	104	100	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Davis & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	4.2	0.2	0.2	0	0	0	0.3
Total Del/Veh (s)	4.7	5.8	2.6	4.9	6.1	2.6	2.2	0.3	0.2	2.3	0.9	0.7	1.9

Vehicles Exited	8	12	13	8	10	13	8	55	12	10	41	10	200
Hourly Exit Rate	8	12	13	8	10	13	8	55	12	10	41	10	200
Input Volume	10	10	10	10	10	10	10	60	10	10	40	10	202
% of Volume	78	117	127	78	98	127	78	92	117	98	103	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.2	0.2	0.2	0	0	0	3.3	0.2	0.2	0.2
Total Del/Veh (s)	11.1	7.5	3.7	9.1	10.7	3.2	14	6.8	4.8	12.9	5	2.3	6.1
Vehicles Exited	27	12	37	79	11	11	9	209	106	17	348	41	907
Hourly Exit Rate	27	12	37	79	11	11	9	209	106	17	348	41	907
Input Volume	30	11	40	80	10	10	10	210	100	20	340	40	902
% of Volume	91	109	93	98	107	107	88	99	106	84	102	103	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.1	1.4	0	0	0.1
Total Del/Veh (s)	12.4	5	8.4	3.3	14.2	5.8	7.3
Vehicles Exited	58	202	359	33	91	439	1182
Hourly Exit Rate	58	202	359	33	91	439	1182
Input Volume	60	200	370	30	90	440	1190
% of Volume	97	101	97	111	101	100	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: STERNS Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	3.8	0.2	0.1	0.2
Total Del/Veh (s)	5.1	6.3	2.9	6.3	6.4	2.8	2.8	1.4	1	1.9	0.3	0.2	1.8
Vehicles Exited	9	10	12	9	12	12	10	104	11	10	85	12	296
Hourly Exit Rate	9	10	12	9	12	12	10	104	11	10	85	12	296
Input Volume	10	10	10	10	10	10	10	110	10	10	80	10	293

% of Volume	88	98	117	88	117	117	98	95	107	98	106	117	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0
Total Del/Veh (s)	2.6	7.5	3.9	2.1	5.2	2	3	4	2.5	2.8	3.8	2.5	5.6
Vehicles Exited	10	195	11	9	211	11	9	9	14	9	10	11	509
Hourly Exit Rate	10	195	11	9	211	11	9	9	14	9	10	11	509
Input Volume	10	190	10	10	210	10	10	10	10	10	10	10	503
% of Volume	98	102	107	88	100	107	88	88	137	88	98	107	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	364	364
Hourly Exit Rate	364	364
Input Volume	360	360
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6	6
Vehicles Exited	564	564
Hourly Exit Rate	564	564
Input Volume	550	550
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.2	9.2
Vehicles Exited	668	668
Hourly Exit Rate	668	668
Input Volume	670	670
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.8	6.8
Vehicles Exited	1189	1189
Hourly Exit Rate	1189	1189
Input Volume	1200	1200
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	123	123
Hourly Exit Rate	123	123
Input Volume	120	120
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	200	200
Hourly Exit Rate	200	200
Input Volume	200	200
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	454	454
Hourly Exit Rate	454	454
Input Volume	449	449
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	135	135
Hourly Exit Rate	135	135
Input Volume	130	130
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6

Vehicles Exited	200	200
Hourly Exit Rate	200	200
Input Volume	200	200
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	151	151
Hourly Exit Rate	151	151
Input Volume	150	150
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.5	8.5
Vehicles Exited	1260	1260
Hourly Exit Rate	1260	1260
Input Volume	1250	1250
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	547	547
Hourly Exit Rate	547	547
Input Volume	540	540

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	795	795
Hourly Exit Rate	795	795
Input Volume	810	810
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	2.4	3.3	2.8
Vehicles Exited	1113	1046	2159
Hourly Exit Rate	1113	1046	2159
Input Volume	1130	1060	2190
% of Volume	98	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	1663	1663
Hourly Exit Rate	1663	1663
Input Volume	1650	1650
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

56: Performance by movement

Movement	NET	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.5	0.4	0.5
Vehicles Exited	478	129	607
Hourly Exit Rate	478	129	607
Input Volume	470	130	600
% of Volume	102	99	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

57: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	1		0.2	0.8
Vehicles Exited	477	0	131	608
Hourly Exit Rate	477	0	131	608
Input Volume	470	0	130	601
% of Volume	101	0	101	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

58: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	1	0.9
Vehicles Exited	1269	444	1713
Hourly Exit Rate	1269	444	1713
Input Volume	1249	450	1699
% of Volume	102	99	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	608	608
Hourly Exit Rate	608	608
Input Volume	600	600
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	598	598
Hourly Exit Rate	598	598
Input Volume	601	601
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	209	209
Hourly Exit Rate	209	209
Input Volume	210	210
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

62: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7

Vehicles Exited	87	87
Hourly Exit Rate	87	87
Input Volume	90	90
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

63: Performance by movement

Movement	EBT	SWT	SWR	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	5.8		0.4	1.9
Vehicles Exited	607	0	1518	2125
Hourly Exit Rate	607	0	1518	2125
Input Volume	600	1	1500	2102
% of Volume	101	0	101	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	282	282
Hourly Exit Rate	282	282
Input Volume	290	290
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

65: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2	3.5	2.2
Vehicles Exited	929	104	1033
Hourly Exit Rate	929	104	1033
Input Volume	941	100	1040

% of Volume	99	104	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	130	130
Hourly Exit Rate	130	130
Input Volume	130	130
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	198	198
Hourly Exit Rate	198	198
Input Volume	200	200
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	129	129
Hourly Exit Rate	129	129
Input Volume	120	120
% of Volume	107	107
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	150	150
Hourly Exit Rate	150	150
Input Volume	150	150
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	430	430
Hourly Exit Rate	430	430
Input Volume	420	420
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	986	986
Hourly Exit Rate	986	986
Input Volume	1000	1000
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

72: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	348	348
Hourly Exit Rate	348	348
Input Volume	350	350
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.4	0	0.2
Total Del/Veh (s)	2.6	4.1	3.4
Vehicles Exited	506	589	1095
Hourly Exit Rate	506	589	1095
Input Volume	500	590	1090
% of Volume	101	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	1160	1160
Hourly Exit Rate	1160	1160
Input Volume	1170	1170
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

75: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4

Vehicles Exited	1056	1056
Hourly Exit Rate	1056	1056
Input Volume	1060	1060
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.2	6.2
Vehicles Exited	1225	1225
Hourly Exit Rate	1225	1225
Input Volume	1210	1210
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

77: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.3	0.2
Total Del/Veh (s)	1.2	0.4	0.8
Vehicles Exited	321	395	716
Hourly Exit Rate	321	395	716
Input Volume	329	391	720
% of Volume	97	101	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	31	31

% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	254	254
Hourly Exit Rate	254	254
Input Volume	260	260
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	80	80
Hourly Exit Rate	80	80
Input Volume	80	80
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.9	1.3	1.8
Vehicles Exited	930	231	1161
Hourly Exit Rate	930	231	1161
Input Volume	940	230	1170
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	84	84
Hourly Exit Rate	84	84
Input Volume	80	80
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	508	508
Hourly Exit Rate	508	508
Input Volume	510	510
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	2.6	1.5
Vehicles Exited	1082	187	1269
Hourly Exit Rate	1082	187	1269
Input Volume	1091	190	1281
% of Volume	99	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	0.3	1.9	1.3
Vehicles Exited	242	448	690
Hourly Exit Rate	242	448	690
Input Volume	240	450	690
% of Volume	101	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.4	0	0.3
Total Del/Veh (s)	0.5	2.5	1
Vehicles Exited	470	154	624
Hourly Exit Rate	470	154	624
Input Volume	470	150	620
% of Volume	100	103	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	588	588
Hourly Exit Rate	588	588
Input Volume	590	590
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4

Vehicles Exited	615	615
Hourly Exit Rate	615	615
Input Volume	600	600
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	496	496
Hourly Exit Rate	496	496
Input Volume	500	500
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.3	0	0.1
Total Del/Veh (s)	1.4	5.4	4
Vehicles Exited	390	717	1107
Hourly Exit Rate	390	717	1107
Input Volume	380	720	1100
% of Volume	102	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	264	264
Hourly Exit Rate	264	264
Input Volume	260	260

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

92: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	114	114
Hourly Exit Rate	114	114
Input Volume	120	120
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	490	490
Hourly Exit Rate	490	490
Input Volume	480	480
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	59	59
Hourly Exit Rate	59	59
Input Volume	60	60
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	40	40
Hourly Exit Rate	40	40
Input Volume	41	41
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

96: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	824	824
Hourly Exit Rate	824	824
Input Volume	849	849
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	97	97
Hourly Exit Rate	97	97
Input Volume	100	100
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	676	676
Hourly Exit Rate	676	676
Input Volume	679	679
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

99: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	2.1		1.6	2
Vehicles Exited	1081	0	199	1280
Hourly Exit Rate	1081	0	199	1280
Input Volume	1090	0	200	1290
% of Volume	99	0	100	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

100: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	2.6	1.5
Vehicles Exited	698	418	1116
Hourly Exit Rate	698	418	1116
Input Volume	710	420	1131
% of Volume	98	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	1.4	1.5

Vehicles Exited	1218	300	1518
Hourly Exit Rate	1218	300	1518
Input Volume	1200	300	1500
% of Volume	102	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	717	717
Hourly Exit Rate	717	717
Input Volume	720	720
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

103: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	78	78
Hourly Exit Rate	78	78
Input Volume	80	80
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	824	824
Hourly Exit Rate	824	824
Input Volume	840	840

% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	619	619
Hourly Exit Rate	619	619
Input Volume	620	620
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	1350	1350
Hourly Exit Rate	1350	1350
Input Volume	1370	1370
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	724	724
Hourly Exit Rate	724	724
Input Volume	720	720
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	238	238
Hourly Exit Rate	238	238
Input Volume	230	230
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

109: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	1270	1270
Hourly Exit Rate	1270	1270
Input Volume	1280	1280
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.5	5.5
Vehicles Exited	471	471
Hourly Exit Rate	471	471
Input Volume	470	470
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	520	520
Hourly Exit Rate	520	520
Input Volume	520	520
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	456	456
Hourly Exit Rate	456	456
Input Volume	460	460
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

113: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	1281	1281
Hourly Exit Rate	1281	1281
Input Volume	1290	1290
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6

Vehicles Exited	303	303
Hourly Exit Rate	303	303
Input Volume	300	300
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	451	451
Hourly Exit Rate	451	451
Input Volume	450	450
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	307	307
Hourly Exit Rate	307	307
Input Volume	300	300
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

117: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	246	246
Hourly Exit Rate	246	246
Input Volume	250	250

% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

118: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	0.9	0.6
Vehicles Exited	1075	208	1283
Hourly Exit Rate	1075	208	1283
Input Volume	1081	210	1291
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	528	528
Hourly Exit Rate	528	528
Input Volume	530	530
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.2	6.2
Vehicles Exited	438	438
Hourly Exit Rate	438	438
Input Volume	440	440
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

121: Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.9	1.3	1.4	1.8
Vehicles Exited	1078	1	375	1454
Hourly Exit Rate	1078	1	375	1454
Input Volume	1080	0	370	1450
% of Volume	100	400	101	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

122: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	134	134
Hourly Exit Rate	134	134
Input Volume	130	130
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	166	166
Hourly Exit Rate	166	166
Input Volume	161	161
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

124: NCC Performance by movement

Movement	WBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.9	0.5	1.1	1.5
Vehicles Exited	1274	1	1158	2433
Hourly Exit Rate	1274	1	1158	2433
Input Volume	1281	1	1170	2452
% of Volume	99	133	99	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

125: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	28	28
Hourly Exit Rate	28	28
Input Volume	31	31
% of Volume	91	91
Denied Entry Before	0	0
Denied Entry After	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	696	696
Hourly Exit Rate	696	696
Input Volume	700	700
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

127: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	0.7	1.3

Vehicles Exited	635	84	719
Hourly Exit Rate	635	84	719
Input Volume	640	80	720
% of Volume	99	105	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

129: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.4	0.3	1.5	1.5
Vehicles Exited	615	1	418	1034
Hourly Exit Rate	615	1	418	1034
Input Volume	620	0	420	1040
% of Volume	99	400	99	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	1454	1454
Hourly Exit Rate	1454	1454
Input Volume	1450	1450
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	535	535
Hourly Exit Rate	535	535
Input Volume	540	540

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	3.5	4	3.8
Vehicles Exited	1116	1056	2172
Hourly Exit Rate	1116	1056	2172
Input Volume	1130	1060	2190
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.5	0.3	3.6
Vehicles Exited	695	417	1112
Hourly Exit Rate	695	417	1112
Input Volume	710	420	1131
% of Volume	98	99	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

134: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	2.4	1.7
Vehicles Exited	696	416	1112
Hourly Exit Rate	696	416	1112
Input Volume	710	420	1131
% of Volume	98	99	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.6	5.6
Vehicles Exited	992	992
Hourly Exit Rate	992	992
Input Volume	990	990
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

136: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	31	31
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

137: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.8	0.4	1.6
Vehicles Exited	217	229	446
Hourly Exit Rate	217	229	446
Input Volume	211	230	441
% of Volume	103	99	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

138: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	654	654
Hourly Exit Rate	654	654
Input Volume	660	660
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	614	614
Hourly Exit Rate	614	614
Input Volume	610	610
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	182	182
Hourly Exit Rate	182	182
Input Volume	180	180
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.3	0.1
Total Del/Veh (s)	2.6	1.5	2.1

Vehicles Exited	347	322	669
Hourly Exit Rate	347	322	669
Input Volume	340	320	660
% of Volume	102	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.1	0.8	1.9
Vehicles Exited	218	230	448
Hourly Exit Rate	218	230	448
Input Volume	211	230	441
% of Volume	103	100	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

146: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	346	346
Hourly Exit Rate	346	346
Input Volume	340	340
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

147: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	1188	1188
Hourly Exit Rate	1188	1188
Input Volume	1200	1200

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

148: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1033	1033
Hourly Exit Rate	1033	1033
Input Volume	1040	1040
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

149: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	701	701
Hourly Exit Rate	701	701
Input Volume	690	690
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	100	100
Hourly Exit Rate	100	100
Input Volume	101	101
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

152: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	33	33
Hourly Exit Rate	33	33
Input Volume	31	31
% of Volume	107	107
Denied Entry Before	0	0
Denied Entry After	0	0

153: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	62	62
Hourly Exit Rate	62	62
Input Volume	60	60
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.9	3.3	5.6
Vehicles Exited	1116	1049	2165
Hourly Exit Rate	1116	1049	2165
Input Volume	1130	1060	2190
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	320	320
Hourly Exit Rate	320	320
Input Volume	329	329
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

156: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1	5.6	3.4
Vehicles Exited	1159	1274	2433
Hourly Exit Rate	1159	1274	2433
Input Volume	1170	1280	2450
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

157: Crane Rd Performance by movement

Movement	EBR	WBR	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	0	0	0	0
Total Del/Veh (s)	2.4	2.4	0.6	0.6	1.9	2	1.2
Vehicles Exited	22	13	98	62	37	34	266
Hourly Exit Rate	22	13	98	62	37	34	266
Input Volume	20	10	101	60	40	30	261
% of Volume	109	127	97	103	92	114	102
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

158: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1

Vehicles Exited	34	34
Hourly Exit Rate	34	34
Input Volume	30	30
% of Volume	114	114
Denied Entry Before	0	0
Denied Entry After	0	0

159: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	62	62
Hourly Exit Rate	62	62
Input Volume	60	60
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

160: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.2	2.9	2.6
Vehicles Exited	560	529	1089
Hourly Exit Rate	560	529	1089
Input Volume	570	530	1100
% of Volume	98	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

163: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	795	795
Hourly Exit Rate	795	795
Input Volume	790	790

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

164: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	7.9	0.7	5.2
Vehicles Exited	1188	738	1926
Hourly Exit Rate	1188	738	1926
Input Volume	1200	730	1930
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

165: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	682	682
Hourly Exit Rate	682	682
Input Volume	680	680
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	31	31
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	40	40
Hourly Exit Rate	40	40
Input Volume	41	41
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	40	40
Hourly Exit Rate	40	40
Input Volume	41	41
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

172: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	131	131
Hourly Exit Rate	131	131
Input Volume	140	140
% of Volume	93	93
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	34	34
Hourly Exit Rate	34	34
Input Volume	31	31
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	175	175
Hourly Exit Rate	175	175
Input Volume	171	171
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	44	44
Hourly Exit Rate	44	44
Input Volume	40	40
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

177: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1

Vehicles Exited	124	124
Hourly Exit Rate	124	124
Input Volume	120	120
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

178: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.3	1.8	2.5
Vehicles Exited	217	231	448
Hourly Exit Rate	217	231	448
Input Volume	211	230	441
% of Volume	103	100	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

179: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	154	154
Hourly Exit Rate	154	154
Input Volume	150	150
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	81	81
Hourly Exit Rate	81	81
Input Volume	80	80

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	62	62
Hourly Exit Rate	62	62
Input Volume	60	60
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	238	238
Hourly Exit Rate	238	238
Input Volume	240	240
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	31	31
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

184: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	28	28
Hourly Exit Rate	28	28
Input Volume	31	31
% of Volume	91	91
Denied Entry Before	0	0
Denied Entry After	0	0

185: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	495	495
Hourly Exit Rate	495	495
Input Volume	500	500
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

186: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.2
Total Del/Veh (s)	1.1	0.1	0.4
Vehicles Exited	124	260	384
Hourly Exit Rate	124	260	384
Input Volume	120	260	379
% of Volume	104	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

187: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.5	5.5
Vehicles Exited	1116	1116
Hourly Exit Rate	1116	1116
Input Volume	1130	1130
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

188: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.9	0.7	2.1
Vehicles Exited	699	419	1118
Hourly Exit Rate	699	419	1118
Input Volume	710	420	1131
% of Volume	98	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

189: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.7	3.4	2.6
Vehicles Exited	218	230	448
Hourly Exit Rate	218	230	448
Input Volume	211	230	441
% of Volume	103	100	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

190: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.1	0.4	0.8

Vehicles Exited	217	230	447
Hourly Exit Rate	217	230	447
Input Volume	211	230	441
% of Volume	103	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

191: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.4	2.9	2.7
Vehicles Exited	217	229	446
Hourly Exit Rate	217	229	446
Input Volume	211	230	441
% of Volume	103	99	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

192: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	125	125
Hourly Exit Rate	125	125
Input Volume	130	130
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

193: Bend Performance by approach

Approach	SB	NW	All
Denied Del/Veh (s)	0	0.1	0.1
Total Del/Veh (s)	1	0	0.4
Vehicles Exited	33	43	76
Hourly Exit Rate	33	43	76
Input Volume	31	50	81

% of Volume	107	86	94
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

194: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.8	3.5	3.2
Vehicles Exited	314	322	636
Hourly Exit Rate	314	322	636
Input Volume	310	320	630
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

195: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	33	33
Hourly Exit Rate	33	33
Input Volume	31	31
% of Volume	107	107
Denied Entry Before	0	0
Denied Entry After	0	0

196: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	33	33
Hourly Exit Rate	33	33
Input Volume	31	31
% of Volume	107	107
Denied Entry Before	0	0
Denied Entry After	0	0

197: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.5	8.5
Vehicles Exited	604	604
Hourly Exit Rate	604	604
Input Volume	590	590
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

198: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	31	31
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

199: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	446	446
Hourly Exit Rate	446	446
Input Volume	441	441
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1281	1281
Hourly Exit Rate	1281	1281
Input Volume	1290	1290
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

201: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	31	31
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

202: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	31	31
Hourly Exit Rate	31	31
Input Volume	31	31
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

203: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	0.9	1.7	0.9	0.9

Vehicles Exited	503	7	192	702
Hourly Exit Rate	503	7	192	702
Input Volume	500	6	200	706
% of Volume	101	112	96	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

208: Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	0.7	0.7
Vehicles Exited	522	101	623
Hourly Exit Rate	522	101	623
Input Volume	518	100	618
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

209: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.1	2	1.3
Vehicles Exited	1178	324	1502
Hourly Exit Rate	1178	324	1502
Input Volume	1174	320	1493
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

211: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	527	527
Hourly Exit Rate	527	527
Input Volume	520	520

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

212: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	695	695
Hourly Exit Rate	695	695
Input Volume	700	700
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

214: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.4	0	0.2	1
Vehicles Exited	1137	15	526	1678
Hourly Exit Rate	1137	15	526	1678
Input Volume	1130	15	520	1665
% of Volume	101	98	101	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

215: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	527	527
Hourly Exit Rate	527	527
Input Volume	520	520
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	130	130
Hourly Exit Rate	130	130
Input Volume	130	130
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

300: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	2.6	2.2
Vehicles Exited	458	846	1304
Hourly Exit Rate	458	846	1304
Input Volume	460	859	1319
% of Volume	100	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1518	1518
Hourly Exit Rate	1518	1518
Input Volume	1500	1500
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

500: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.1	0	0
Total Del/Veh (s)	0.5	2	1.6
Vehicles Exited	290	698	988
Hourly Exit Rate	290	698	988
Input Volume	280	690	970
% of Volume	104	101	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	32.3
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	23
Denied Entry Before	0
Denied Entry After	0

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Queuing and Blocking Report
Baseline ########

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	108	190	193	205	102	271	237	258	273	69	229	99	76	212
Average Queue (ft)	31	101	103	111	43	130	100	131	144	20	108	33	19	87
95th Queue (ft)	73	159	167	185	82	228	203	230	238	53	191	77	54	167
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														

Storage Bay Dist (ft)	530				410	580				530	330		300									
Storage Blk Time (%)											0			0								
Queuing Penalty (veh)											0			0								

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	L	T	T	TR
Maximum Queue (ft)	92	126	152	166	168	136	176	171	215	218	228	49	64	68	70	75	60	16	78	79	73	78
Average Queue (ft)	28	52	67	82	62	41	93	102	86	102	112	8	17	23	20	24	13	1	21	33	20	26
95th Queue (ft)	68	109	130	151	124	112	154	156	171	182	189	31	48	52	50	54	40	8	57	67	55	61
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923		3946	3946	3946
Upstream Blk Time (%)																						
Queuing Penalty (veh)																						
Storage Bay Dist (ft)	715				355	920	920	920				750	800						550			
Storage Blk Time (%)																						
Queuing Penalty (veh)																						

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	216	117	131	447	220	90	186	175	159	276	328
Average Queue (ft)	97	42	15	234	92	26	91	89	62	134	173
95th Queue (ft)	176	95	68	389	224	68	158	151	126	234	286
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				0							
Queuing Penalty (veh)				1							
Storage Bay Dist (ft)	250		90		160	185			290		
Storage Blk Time (%)	0		0	37	0		0			0	
Queuing Penalty (veh)	0		0	52	0		0			0	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	179	170	226	193
Average Queue (ft)	104	76	89	65
95th Queue (ft)	161	141	186	154

Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	123	198	59	56
Average Queue (ft)	48	93	2	16
95th Queue (ft)	102	156	33	40
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		530		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	L	T	T	T	>
Maximum Queue (ft)	37	59	138	116	132	190	125	114	112	74	68	59	98	133	149	110	114
Average Queue (ft)	4	16	62	58	72	97	48	50	38	12	18	9	25	65	75	23	52
95th Queue (ft)	22	45	117	105	113	165	97	91	84	44	50	38	68	117	135	73	99
Link Distance (ft)			1111			1079		737	737	737	737			1038	1038	1038	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300	300		300	300		700					300	550				550
Storage Blk Time (%)																	
Queuing Penalty (veh)																	

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR

Maximum Queue (ft)	173	175	186	189	185	103	133	141	248	270	253	230	174	178	203	224	204	110	106	149	304	269	225
Average Queue (ft)	82	96	101	113	95	47	58	78	160	175	147	96	69	86	126	135	104	46	20	66	177	152	109
95th Queue (ft)	142	152	156	168	162	83	111	127	226	249	225	190	133	144	189	209	187	94	64	124	257	232	204
Link Distance (ft)			4930	4930	4930				3395	3395	3395				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)																							
Queuing Penalty (veh)																							
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)									0				0	0	0		0	0					
Queuing Penalty (veh)									0				0	0	0		1	0					

Intersection: 8: Coffee Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	25	65	95	135	140	74	212	56	39	76	63	114	108	180
Average Queue (ft)	2	17	28	56	70	18	100	15	5	19	15	57	44	74
95th Queue (ft)	15	45	71	108	116	52	173	40	20	52	46	100	93	142
Link Distance (ft)		860	860		880	880		902	902			952	952	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	500			500			600			600	650			650
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	109	145	177	149	52	119	126	247	236	192	200	226	169	158	72	232	200	120
Average Queue (ft)	23	70	96	47	5	41	46	146	144	80	71	134	87	63	26	140	85	59
95th Queue (ft)	70	124	155	109	24	87	93	210	208	166	161	200	149	128	59	212	177	102
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)								0										
Queuing Penalty (veh)								0										

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	88	109	105	100	117	156	190	185	106	145	113	152	123
Average Queue (ft)	28	38	31	41	66	65	79	91	40	64	43	52	49
95th Queue (ft)	68	82	75	81	105	130	151	160	89	122	93	110	94
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								0			0	5	1
Queuing Penalty (veh)								0			0	8	1

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	130	86	99	212	255	38	101	124	135	134	89	237	276
Average Queue (ft)	50	25	41	74	142	7	29	50	56	59	30	85	131
95th Queue (ft)	106	64	79	176	231	25	76	93	105	102	69	172	228
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		
Storage Blk Time (%)				0	0							0	
Queuing Penalty (veh)				0	0							0	

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	121	157	96	56	46	155	107	17	47	239	268	130	118	47	346	275	134
Average Queue (ft)	28	81	34	6	8	76	26	1	7	138	169	60	34	10	193	133	59
95th Queue (ft)	83	144	75	32	33	128	71	10	30	218	239	108	86	33	293	246	105
Link Distance (ft)		1375	1375	1375		1274	1274	1274			2052	2052	2052		501	501	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)															0	0	

Queuing Penalty (veh)	0	0

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	170	153	126	300	210	173	294	207	313	160
Average Queue (ft)	76	50	24	129	73	44	153	88	100	76
95th Queue (ft)	141	111	81	237	161	117	257	172	221	143
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			1	28	0	0	1	1	8	1
Queuing Penalty (veh)			3	53	0	0	1	2	25	2

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	68	81	97	50	84	54	48	11	6	40	3	7
Average Queue (ft)	21	32	49	7	28	16	6	0	0	6	0	0
95th Queue (ft)	52	68	81	28	61	41	31	7	5	26	3	4
Link Distance (ft)		1163			1019			1058	1058		414	414
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300	300		300	300			300		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	93	99	109	82	82	72	47
Average Queue (ft)	41	42	43	36	30	25	14
95th Queue (ft)	77	79	84	68	66	58	38
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							

Queuing Penalty (veh)																								
Storage Bay Dist (ft)		300	400				150																	
Storage Blk Time (%)																								
Queuing Penalty (veh)																								

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	117	138	259	260	202	106	102	122	135	191	200	159	52	118	148	148	89	98	121	55	80	134	129	160
Average Queue (ft)	44	68	128	144	83	40	28	46	61	92	101	74	9	16	66	75	26	32	47	11	27	57	41	72
95th Queue (ft)	94	117	213	225	175	85	75	97	108	157	168	145	32	68	121	125	62	75	94	36	62	109	96	133
Link Distance (ft)			1066	1066	1066				1590	1590	1590	1590				1090	1090	1090				1217	1217	
Upstream Blk Time (%)																								
Queuing Penalty (veh)																								
Storage Bay Dist (ft)	800	800				1000	970	970					850	720	720				1000	520	520			720
Storage Blk Time (%)																								
Queuing Penalty (veh)																								

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	TR	L	TR	LT	R
Maximum Queue (ft)	50	13	2	46	62	74	39
Average Queue (ft)	11	0	0	9	18	29	9
95th Queue (ft)	37	6	2	34	49	62	31
Link Distance (ft)			5347		1593	799	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300	300		200			300
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 18: Bentley & Claribel

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	28	28	70	53	68	58
Average Queue (ft)	1	1	23	10	24	18

95th Queue (ft)	12	13	55	35	56	47
Link Distance (ft)	2720	2487	1498		1216	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			3	1	4	2
Queuing Penalty (veh)			0	0	1	1

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	89	132	150	75	195	147	103	86	106	89	81
Average Queue (ft)	37	49	62	27	91	56	43	35	47	29	42
95th Queue (ft)	74	101	119	61	155	113	83	72	87	68	72
Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)					0				0	0	0
Queuing Penalty (veh)					0				1	1	1

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	382	254	237	395	189	229	228	88	454	407
Average Queue (ft)	86	148	134	71	191	75	130	135	39	251	219
95th Queue (ft)	129	289	233	169	338	139	209	205	78	405	361
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	41	33	1	0	2						
Queuing Penalty (veh)	140	102	3	0	2						

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB

Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	93	148	167	164	135	153	131	147	124	101	97	200	144
Average Queue (ft)	32	74	71	79	59	63	51	87	51	35	27	85	49
95th Queue (ft)	73	131	136	137	112	122	99	130	100	77	70	156	105
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)				0			0		11	1	0	6	0
Queuing Penalty (veh)				0			0		37	3	0	8	0

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	88	84	72	56	134	145	63	249	219	178	181	211
Average Queue (ft)	28	26	18	10	43	63	16	129	93	64	72	92
95th Queue (ft)	70	64	51	36	98	112	48	218	185	138	156	176
Link Distance (ft)		5602			2237			1498			2125	2125
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	225		225	400		300	400		
Storage Blk Time (%)								0				
Queuing Penalty (veh)								0				

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	73	96	59	107	191	118	168	132	57	231	204	62
Average Queue (ft)	21	20	15	28	85	40	78	48	11	119	84	15
95th Queue (ft)	55	60	39	70	154	89	142	106	40	196	174	47
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)					0							
Queuing Penalty (veh)					0							

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	30	81	86	81	100	80	74	95	88	108	137	72	118	129	83	155
Average Queue (ft)	3	27	26	30	48	24	22	36	14	42	64	18	48	61	12	64
95th Queue (ft)	16	61	65	68	85	62	56	78	52	89	110	49	97	114	49	116
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	650				650	600				600
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 25: Roselle & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	31	8	129	84	86	87	148	104	66	85	80	106	109	47
Average Queue (ft)	3	0	51	23	43	27	62	35	7	20	20	47	39	4
95th Queue (ft)	17	4	101	58	75	69	118	84	36	57	55	92	87	23
Link Distance (ft)			1221		1142	1142		671	671			1058	1058	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	500	500		500			550			550	550			550
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 26: Crane Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L	T	R	L	T	R	R
Maximum Queue (ft)	165	179	116	114	105	26	83	138	139	128	50	30	60	59	67	71	104	140
Average Queue (ft)	80	96	35	35	21	2	20	60	53	53	7	7	16	18	15	19	48	62
95th Queue (ft)	141	153	84	86	68	12	58	110	106	107	30	23	44	45	48	51	87	112
Link Distance (ft)		1599	1599	1599	1599			1340	1340	1340			914			2750	2750	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	750					630	930				630	150		300	200			350

Storage Blk Time (%)																				
Queuing Penalty (veh)																				

Intersection: 27: Albers Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B164
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T	T	R	L	T	T	R	R	T
Maximum Queue (ft)	253	246	73	55	42	130	125	98	110	43	45	230	235	95	41	172	173	73	68	3
Average Queue (ft)	129	126	17	9	4	53	59	28	43	5	8	105	118	35	9	93	76	28	17	0
95th Queue (ft)	215	207	50	34	23	105	105	71	88	22	31	191	201	73	31	154	141	60	49	3
Link Distance (ft)		1588	1588	1588				4614	4614			2125	2125			2166	2166			80
Upstream Blk Time (%)																				
Queuing Penalty (veh)																				
Storage Bay Dist (ft)	750				750	720	720			670	200			300	200			350	350	
Storage Blk Time (%)												1	0			0				
Queuing Penalty (veh)												0	0			0				

Intersection: 28: STERNS & NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	111	51	78	39	36	100	102	39	70	40	58	78
Average Queue (ft)	48	9	22	4	8	34	34	5	20	5	14	32
95th Queue (ft)	91	34	61	20	28	79	77	24	50	24	42	62
Link Distance (ft)		1991	1991			2785	2785		267		629	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	870			570	570			570		100		300
Storage Blk Time (%)									0			
Queuing Penalty (veh)									0			

Intersection: 29: NCC & SR 120/108

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	74	50	28	4
Average Queue (ft)	22	5	2	0
95th Queue (ft)	60	27	14	5
Link Distance (ft)	2046	1098	1602	1602

Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	71	54	48	54	101	56	77	80	28	46	112	80	109	39
Average Queue (ft)	15	15	8	13	41	9	16	19	2	9	47	30	35	4
95th Queue (ft)	48	41	32	38	81	36	53	59	13	34	89	71	82	21
Link Distance (ft)		882		1230		1038	1038	1038			2422	2422	2422	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	300		300		300				300	300				300
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	80	68	65	68	66	100	74	47	39	68	152	162	63
Average Queue (ft)	19	23	20	24	21	35	18	5	3	22	46	67	11
95th Queue (ft)	54	57	51	57	51	83	53	27	20	55	110	127	41
Link Distance (ft)		430		638		834	834				757	757	757
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	300		300		300			400	450	450			
Storage Blk Time (%)													
Queuing Penalty (veh)													

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	L	L	T
Maximum Queue (ft)	40	58	49	53	39	30	2

Average Queue (ft)	8	16	14	13	4	2	0
95th Queue (ft)	30	44	38	37	22	16	2
Link Distance (ft)		1262		1986			1368
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300		300		300	300	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L
Maximum Queue (ft)	63	60	37	73	24	1	1	6	43
Average Queue (ft)	17	18	7	24	3	0	0	0	6
95th Queue (ft)	49	48	26	59	14	1	0	6	26
Link Distance (ft)		729		1093		1259	1259		
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	300		300		300			300	300
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	T
Maximum Queue (ft)	90	77	77	78	44	6	2	36	2	2
Average Queue (ft)	29	29	20	27	6	0	0	5	0	0
95th Queue (ft)	71	63	59	66	27	3	2	23	2	2
Link Distance (ft)		636		496		370			1357	1357
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	300		300		300		300	300		
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	60	105	133	119	63	103	119
Average Queue (ft)	15	46	47	35	19	27	41
95th Queue (ft)	47	82	103	84	51	76	95
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Davis & Claribel Realigned (N)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	65	66	29	17
Average Queue (ft)	23	23	1	1
95th Queue (ft)	55	55	14	7
Link Distance (ft)	662	702		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			50	50
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	82	77	100	36	80	98	64	82	119
Average Queue (ft)	21	26	45	7	18	40	15	25	42
95th Queue (ft)	60	60	82	28	54	82	45	64	93
Link Distance (ft)		1110	417		1217	1217		1028	1028
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	T	T	R	L	L	T	T
Maximum Queue (ft)	89	105	129	161	63	60	100	95	115
Average Queue (ft)	33	54	51	68	15	13	45	24	46
95th Queue (ft)	74	94	100	130	49	44	83	71	93
Link Distance (ft)	437		1878	1878				841	841
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		300			300	890	890		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 39: STERNS

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	63	68	14	2	23
Average Queue (ft)	23	25	1	0	1
95th Queue (ft)	53	57	8	2	11
Link Distance (ft)	675	1267		629	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			200		200
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 40: NCC

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LT	LT	LT	TR	LT	TR
Maximum Queue (ft)	37	28	42	25	34	33
Average Queue (ft)	2	2	4	1	3	1
95th Queue (ft)	18	17	23	14	21	15
Link Distance (ft)	3058	3378	639	639	764	764
Upstream Blk Time (%)						
Queuing Penalty (veh)						

Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 56:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 57:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 58:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)

Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 63:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 65: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 81:

Movement
Directions Served

Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 84: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 99:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 101:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 118: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 121:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 124: NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 127: NCC SPUI & NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 129:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)

Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 154: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	158
Average Queue (ft)	6
95th Queue (ft)	162
Link Distance (ft)	1590
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 157: Crane Rd

Movement	EB	WB
Directions Served	R	R
Maximum Queue (ft)	61	43
Average Queue (ft)	16	9
95th Queue (ft)	46	31
Link Distance (ft)	117	122
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 186: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	2
Average Queue (ft)	0

95th Queue (ft)	2
Link Distance (ft)	437
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 203:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 208:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 209:

Movement

Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 214:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary
Network wide Queuing Penalty: 450

SimTraffic Performance Report
2022 Alternative 1B PM Peak Hour
9/3/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1	0.1	0.8	0	0	0	2	0.4	0.4	2.1	0.3	0.2	0.2
Total Del/Veh (s)	34.6	20.3	6.5	34.6	17.5	7.7	31.9	26.3	12.2	32.4	29	9.9	20
Vehicles Exited	39	1044	147	130	982	50	82	91	101	59	80	11	2816
Hourly Exit Rate	39	1044	147	130	982	50	82	91	101	59	80	11	2816
Input Volume	40	1040	150	130	981	50	80	90	100	60	80	10	2811
% of Volume	98	100	98	100	100	100	102	101	101	98	100	107	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	40.7	32	15.6	32	11.6	3	26	21.3	4.6	30.6	28.2	8.6	21.2
Vehicles Exited	19	1010	178	352	883	50	259	158	456	61	144	20	3590
Hourly Exit Rate	19	1010	178	352	883	50	259	158	456	61	144	20	3590
Input Volume	20	1010	170	350	880	50	260	160	460	60	140	20	3580
% of Volume	94	100	105	101	100	100	100	99	99	102	103	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.4	0	0	0	0	0	0	0.3	0.2	0.2	0.2
Total Del/Veh (s)	82	35.7	25.3	58.7	37.5	7.9	51.8	37.3	25.5	78.7	30.7	23.6	44.3
Vehicles Exited	238	163	20	9	258	90	53	363	11	263	424	186	2078
Hourly Exit Rate	238	163	20	9	258	90	53	363	11	263	424	186	2078
Input Volume	240	170	20	10	250	90	60	370	10	270	420	190	2102
% of Volume	99	96	99	88	103	100	88	98	107	97	101	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	15.5	4.8	7.7	1	11.8	8.1
Vehicles Exited	126	10	417	351	452	1356
Hourly Exit Rate	126	10	417	351	452	1356
Input Volume	130	10	430	350	451	1371
% of Volume	97	98	97	100	100	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	0.4	0.4	0	0.1
Total Del/Veh (s)	19.9	7.7	20.2	3	7.3	11.6
Vehicles Exited	426	11	124	359	350	1270
Hourly Exit Rate	426	11	124	359	350	1270
Input Volume	442	10	130	350	350	1282
% of Volume	96	107	95	103	100	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	20	0.6	19.1	19.9	0.8	20.6	16.8	12.6	5.8	21.1	16.5	7.6	14.2
Vehicles Exited	210	1	206	224	1	165	128	617	532	69	473	148	2774
Hourly Exit Rate	210	1	206	224	1	165	128	617	532	69	473	148	2774
Input Volume	210	2	200	220	1	170	130	610	530	70	480	150	2772
% of Volume	100	67	103	102	133	97	98	101	100	98	98	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.2	0.3	0.1	0.2	0.3	0.1	0.2	2.2	0.3	0.4	0.4
Total Del/Veh (s)	48.5	79.4	25.9	42.7	32.9	4.4	44.7	39.5	15.9	47.3	25.9	19.3	42.4
Vehicles Exited	262	1077	343	224	578	154	282	1001	185	501	941	220	5768
Hourly Exit Rate	262	1077	343	224	578	154	282	1001	185	501	941	220	5768
Input Volume	270	1080	340	220	590	160	290	1010	190	490	930	230	5800
% of Volume	97	100	101	102	98	96	97	99	97	102	101	96	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

8: Coffee Rd Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0		0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	16.9		15.6	15.7	24.8	16.1	5.7	3.8	29.5	14.9	6.6	12.1
Vehicles Exited	302	0	167	221	21	212	195	327	18	180	155	1798
Hourly Exit Rate	302	0	167	221	21	212	195	327	18	180	155	1798
Input Volume	310	1	170	220	20	220	201	330	20	181	150	1823
% of Volume	97	0	98	100	104	96	97	99	89	99	104	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2	0.1	2	1.2	0.1	0.1	2.8	0.1	0.1	3.4	0.1	3.4	1
Total Del/Veh (s)	34.2	26.3	8	35.5	24.7	8.4	33.3	20.2	10.6	33.8	25.2	8.1	22.8
Vehicles Exited	272	916	469	96	484	63	320	432	66	64	178	209	3569
Hourly Exit Rate	272	916	469	96	484	63	320	432	66	64	178	209	3569
Input Volume	280	930	480	90	480	60	320	420	70	70	180	210	3590
% of Volume	97	99	98	107	101	105	100	103	95	92	99	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.4	0.2	0.2	0.3	0.1	0.1	1.5	0.2	0.1	1.7	0.3	1.7	0.4
Total Del/Veh (s)	45.2	21	15.4	43.8	15.3	8.3	40	28.8	34.4	45.2	38	6.4	27.6

Vehicles Exited	88	615	115	308	299	30	142	69	202	49	49	68	2034
Hourly Exit Rate	88	615	115	308	299	30	142	69	202	49	49	68	2034
Input Volume	90	620	110	300	300	30	140	70	210	50	50	60	2030
% of Volume	98	99	105	103	100	101	101	98	96	98	98	113	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.3	0.2	0.4	0.2	3.3	0	0	0	0.3	0.1	0.1	0.3
Total Del/Veh (s)	23	38.6	7.3	28.4	39.8	3.5	38.5	21.3	8.2	36.9	21.1	14.5	20.2
Vehicles Exited	78	21	111	373	9	43	59	491	379	63	468	42	2137
Hourly Exit Rate	78	21	111	373	9	43	59	491	379	63	468	42	2137
Input Volume	80	20	100	370	10	40	60	490	380	60	450	40	2100
% of Volume	97	104	111	101	88	108	98	100	100	105	104	106	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.5	0.5	2.9	3.6	0.1	3.6	0.3	0.1	0.2	3.1	0.2	3	1
Total Del/Veh (s)	36.6	21.4	5.3	34.3	27.9	4.9	28.9	11.5	5.4	41.4	25.7	4.7	17.6
Vehicles Exited	158	302	699	21	199	22	327	672	42	9	583	150	3184
Hourly Exit Rate	158	302	699	21	199	22	327	672	42	9	583	150	3184
Input Volume	170	300	690	20	190	20	330	670	40	10	580	150	3170
% of Volume	93	101	101	104	105	109	99	100	106	88	100	100	100
Denied Entry Before	0	0	1	0	0	0	0	0	0	0	0	0	1
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.2	0.2	0.2	3.6	0.5	0.4	2.4	0.9	2.3	0.8
Total Del/Veh (s)	41.5	28.8	21	50.5	36	11.4	33	38.6	28.3	40.5	37.2	9.8	32.3
Vehicles Exited	261	384	34	29	144	116	59	221	33	218	176	144	1819
Hourly Exit Rate	261	384	34	29	144	116	59	221	33	218	176	144	1819
Input Volume	270	380	30	30	150	120	60	220	30	220	180	140	1829

% of Volume	97	101	114	97	96	97	98	100	111	99	98	103	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.4	4	4	0.2	4	0	0	0	0	0	0	0.5
Total Del/Veh (s)	15.3	17.9	4	16.2	15.9	2.3	6.1	3.3	1.6	3.4	0.8	0.2	4.5
Vehicles Exited	18	40	74	18	59	21	128	352	32	30	302	22	1096
Hourly Exit Rate	18	40	74	18	59	21	128	352	32	30	302	22	1096
Input Volume	20	40	70	20	60	20	130	360	30	30	310	20	1112
% of Volume	89	101	105	89	98	104	98	98	108	101	97	109	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.4	3.9	0.4
Total Del/Veh (s)	7.6	4.2	18.6	3.7	12	3.4	6.5
Vehicles Exited	488	174	38	206	48	98	1052
Hourly Exit Rate	488	174	38	206	48	98	1052
Input Volume	490	170	40	210	50	100	1059
% of Volume	100	102	96	98	96	98	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	40.2	27.1	8	39.4	25	4.5	51.9	16.6	8	33.4	36.9	12.6	26.8
Vehicles Exited	251	780	326	368	739	105	387	148	288	31	205	250	3878
Hourly Exit Rate	251	780	326	368	739	105	387	148	288	31	205	250	3878
Input Volume	260	770	330	370	750	100	380	150	280	30	200	240	3860
% of Volume	97	101	99	99	99	105	102	99	103	104	102	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2	0.3	0.3	0.1	0.1	0.2	1.9	0.1	0.1	0	0	0	0.5
Total Del/Veh (s)	1.9	1.4	0.8	1.2	2.2	0.9	6.4	8	2.9	6.8	10.3	3.8	2.9
Vehicles Exited	104	121	11	8	102	21	11	10	12	39	10	136	585
Hourly Exit Rate	104	121	11	8	102	21	11	10	12	39	10	136	585
Input Volume	100	120	10	10	100	20	10	10	10	40	10	140	581
% of Volume	104	101	107	78	102	104	107	98	117	98	98	97	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.1	4.2	0.1	0.1	4.2	0.4
Total Del/Veh (s)	3.6	1.9	1.1	1.9	1.7	0.5	4.9	9.8	3.1	4.9	8.5	2.4	2.6
Vehicles Exited	9	212	20	31	111	24	10	31	10	18	11	11	498
Hourly Exit Rate	9	212	20	31	111	24	10	31	10	18	11	11	498
Input Volume	10	210	20	30	110	20	10	30	10	20	10	10	491
% of Volume	88	101	99	104	101	119	98	104	98	89	107	107	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.5	0.5	0.6	3.8	0.4	0.4	2.2	0.3	2	0.6
Total Del/Veh (s)	22.8	9.6	5.4	28.1	14.6	7.8	19.1	15.6	7.8	18.5	14.9	4.8	12.9
Vehicles Exited	94	592	39	27	517	69	91	50	60	91	36	93	1759
Hourly Exit Rate	94	592	39	27	517	69	91	50	60	91	36	93	1759
Input Volume	90	590	40	30	530	70	90	50	60	90	40	90	1771
% of Volume	104	100	98	89	98	99	101	101	100	101	91	103	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.5	0.5	0.5	0.3	0.1	0.1	1.6	0.8	1.6	0.2	0.1	0.1	0.4
Total Del/Veh (s)	82.3	33.4	25.4	63.6	37.7	12.4	38.1	39.2	8.9	46.6	40.4	34.1	36.3
Vehicles Exited	100	376	48	70	297	362	100	425	114	313	390	69	2664
Hourly Exit Rate	100	376	48	70	297	362	100	425	114	313	390	69	2664
Input Volume	100	380	50	70	300	370	100	420	110	310	390	70	2671
% of Volume	100	99	96	100	99	98	100	101	104	101	100	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.7	0.1	0.2	0.3	0.1	0.1	2	0.7	2	0.2	0.3	0.2	0.6
Total Del/Veh (s)	30	17.3	10.1	30.6	16.4	9.2	28.5	22	7.5	32.7	26.5	8.8	18.5
Vehicles Exited	90	370	161	106	419	50	141	148	173	48	116	98	1920
Hourly Exit Rate	90	370	161	106	419	50	141	148	173	48	116	98	1920
Input Volume	90	380	160	110	420	50	140	150	170	50	120	100	1940
% of Volume	100	97	100	97	100	101	101	99	102	96	97	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	2.8	0.5	2.8	3.4	1.7	3.1	0	0	0	0.8
Total Del/Veh (s)	33.7	28.3	5.8	28.5	28.1	7.6	32.7	33.8	18.6	34.7	17.7	12.9	25.1
Vehicles Exited	67	104	12	9	22	204	29	464	11	333	562	40	1857
Hourly Exit Rate	67	104	12	9	22	204	29	464	11	333	562	40	1857
Input Volume	70	100	10	10	20	200	30	470	10	340	550	40	1851
% of Volume	95	104	117	88	109	102	97	99	107	98	102	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.5	0.5	3.7	2.5	0.2	0.2	3	0.2	0.2	3.1	0.1	3.5	0.7
Total Del/Veh (s)	23.7	22.4	5.1	28.1	20	8.6	26.2	9.9	4.1	27.7	12.3	5	12.7

Vehicles Exited	8	125	102	21	86	12	51	574	32	10	459	24	1504
Hourly Exit Rate	8	125	102	21	86	12	51	574	32	10	459	24	1504
Input Volume	10	130	100	20	90	10	50	570	30	10	470	20	1511
% of Volume	78	96	102	104	96	117	102	101	108	98	98	119	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	19.2	0.4	23.1	17.5	0.4	21.8	20.9	12.3	4.6	20.3	13.7	7.2	14.1
Vehicles Exited	324	1	121	219	2	148	10	456	208	52	609	291	2441
Hourly Exit Rate	324	1	121	219	2	148	10	456	208	52	609	291	2441
Input Volume	330	0	120	220	2	150	10	451	210	50	591	280	2413
% of Volume	98	200	101	100	133	99	98	101	99	104	103	104	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

25: Roselle & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0.2	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	17.6	0.2	15.1	16.8	0	19.1	14.6	7.5	4.2	23.2	13.8	3.5	11.7
Vehicles Exited	47	9	248	114	6	70	116	396	207	43	320	31	1607
Hourly Exit Rate	47	9	248	114	6	70	116	396	207	43	320	31	1607
Input Volume	50	8	250	110	5	70	120	400	210	50	321	30	1625
% of Volume	94	106	99	104	114	100	97	99	99	86	100	104	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

26: Crane Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.3	0.1	0.1	0
Total Del/Veh (s)	17.8	10	2	25.5	20.2	5.2	30	24.3	3	29.7	22.4	6.8	14.2
Vehicles Exited	491	553	20	128	608	32	10	40	65	29	47	616	2639
Hourly Exit Rate	491	553	20	128	608	32	10	40	65	29	47	616	2639
Input Volume	500	560	20	130	610	30	10	40	60	30	50	600	2639

% of Volume	98	99	99	98	100	108	98	100	108	97	94	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

27: Albers Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	30.7	11.9	3.7	28.8	24.2	4.7	41.1	21.5	10.6	35.5	22.1	6.9	19.3
Vehicles Exited	423	197	29	228	162	13	11	479	247	29	678	594	3090
Hourly Exit Rate	423	197	29	228	162	13	11	479	247	29	678	594	3090
Input Volume	420	200	30	230	160	10	10	480	250	30	670	600	3090
% of Volume	101	99	97	99	101	127	107	100	99	97	101	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

28: STERNS & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0.1	0
Total Del/Veh (s)	11.4	4.9	1.6	14.2	12	3.2	9.4	8.8	2.9	10.2	9.7	4.3	7.7
Vehicles Exited	125	308	38	9	236	10	25	10	12	8	10	140	931
Hourly Exit Rate	125	308	38	9	236	10	25	10	12	8	10	140	931
Input Volume	130	311	40	10	240	10	30	10	10	10	10	130	942
% of Volume	96	99	96	88	98	98	84	98	117	78	98	107	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.2	0.3	0	0	0	0	0	0.1
Total Del/Veh (s)	8.4	4.8	5.1	9.4	2	0.6	3.4	6
Vehicles Exited	215	31	226	201	67	1	258	999
Hourly Exit Rate	215	31	226	201	67	1	258	999
Input Volume	220	30	230	200	70	1	260	1010
% of Volume	98	104	98	101	95	100	99	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.2	0.2	4.1	0.2	0.2	0	0	0	1.7	0.1	1.6	0.2
Total Del/Veh (s)	18.8	13.3	4.4	16.9	14.3	5.2	19	7.3	3.5	22.1	7	2.6	8.1
Vehicles Exited	35	10	98	20	21	22	77	897	20	20	572	21	1813
Hourly Exit Rate	35	10	98	20	21	22	77	897	20	20	572	21	1813
Input Volume	40	10	100	20	20	20	80	890	20	20	580	20	1822
% of Volume	88	98	98	99	104	109	96	101	99	99	99	104	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.3	0.4	4	0.2	0.3	2.4	0.3	2.5	0	0	0	0.4
Total Del/Veh (s)	26	24.2	6.1	26.7	31.1	12.4	28.1	9.6	2.9	25.7	6.5	1.4	9.9
Vehicles Exited	78	9	69	37	8	65	38	1136	42	62	783	59	2386
Hourly Exit Rate	78	9	69	37	8	65	38	1136	42	62	783	59	2386
Input Volume	80	10	70	40	10	60	40	1130	40	60	780	60	2380
% of Volume	97	88	98	93	78	108	96	101	106	103	100	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.6	0.1	0.1	0.1	0.1	0.1	0	0	0	3.7	0.2	3.5	0.2
Total Del/Veh (s)	8.2	10.6	3.5	11.9	10.7	3.4	3.4	1.7	1.7	3.5	0.4	1.3	1.8
Vehicles Exited	10	11	13	21	12	12	8	488	21	8	317	10	931
Hourly Exit Rate	10	11	13	21	12	12	8	488	21	8	317	10	931
Input Volume	10	10	10	20	10	10	10	500	20	10	320	10	943
% of Volume	98	107	127	104	117	117	78	98	104	78	99	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.2	4.2	0.1	0.2	2.9	0.3	3.1	0	0	0	0.3
Total Del/Veh (s)	32.4	20.3	7	21.4	28.5	7.6	2.9	0.7	1.8	6.7	2	1.9	2.4
Vehicles Exited	18	11	13	8	12	19	9	696	12	18	528	22	1366
Hourly Exit Rate	18	11	13	8	12	19	9	696	12	18	528	22	1366
Input Volume	20	10	10	10	10	20	10	710	10	20	531	20	1384
% of Volume	89	107	127	78	117	94	88	98	117	89	99	109	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.3	0.1	4.1	0.2	0.1	3	0.3	3	0	0	0	0.2
Total Del/Veh (s)	31.8	27.4	7.8	18.8	28.8	5.7	6.9	0.7	0.4	6.5	3.5	2	3.3
Vehicles Exited	19	12	21	10	10	11	18	644	20	40	871	42	1718
Hourly Exit Rate	19	12	21	10	10	11	18	644	20	40	871	42	1718
Input Volume	20	10	20	10	10	10	20	640	20	40	851	40	1692
% of Volume	94	117	104	98	98	107	89	101	99	101	102	106	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	1.9	0.1	0.2	0.3	0	0	0.2
Total Del/Veh (s)	15.1	5	4.7	2	13.7	4	4.9
Vehicles Exited	39	38	679	39	41	639	1475
Hourly Exit Rate	39	38	679	39	41	639	1475
Input Volume	40	40	690	40	40	640	1490
% of Volume	98	96	98	98	103	100	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Davis & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	4	0.2	0.2	0	0	0	0.3
Total Del/Veh (s)	5.4	6.4	2.6	4.8	6	3	2.1	0.3	0.1	2.7	1.1	1.1	2

Vehicles Exited	8	10	11	10	11	11	9	56	10	9	56	10	211
Hourly Exit Rate	8	10	11	10	11	11	9	56	10	9	56	10	211
Input Volume	10	10	10	10	10	10	10	60	10	10	60	10	222
% of Volume	78	98	107	98	107	107	88	93	98	88	93	98	95
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.3	0.2	0.3	0	0	0	3.6	0.2	0.2	0.2
Total Del/Veh (s)	13	10.3	3.4	13.2	13.1	8.4	22.5	10.5	7.2	18.6	8.2	3.8	10.8
Vehicles Exited	55	10	10	215	12	27	27	449	30	41	260	36	1172
Hourly Exit Rate	55	10	10	215	12	27	27	449	30	41	260	36	1172
Input Volume	60	10	10	210	10	30	30	451	30	40	250	40	1170
% of Volume	92	98	98	103	117	91	91	100	101	103	104	91	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.2	1.3	0	0	0.1
Total Del/Veh (s)	18.1	6.9	12.1	4.8	17.3	5.2	9.9
Vehicles Exited	52	156	671	62	258	641	1840
Hourly Exit Rate	52	156	671	62	258	641	1840
Input Volume	50	150	660	60	260	641	1820
% of Volume	104	104	102	103	99	100	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: STERNS Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.2	0.1	0.1	0.1	0	0	0	3.8	0.2	0.2	0.4
Total Del/Veh (s)	6.2	7.5	3.6	6.4	7.2	3.7	3.4	1.7	1.3	2.3	0.6	0.3	2.7
Vehicles Exited	27	10	34	31	11	29	29	89	28	30	92	30	440
Hourly Exit Rate	27	10	34	31	11	29	29	89	28	30	92	30	440
Input Volume	30	10	30	30	10	30	30	91	30	30	90	30	440

% of Volume	91	98	114	104	107	97	97	98	94	101	103	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0
Total Del/Veh (s)	3.9	8.7	5.1	2	5.6	1.9	3.6	3.8	2.9	3.2	4.1	2.6	6.7
Vehicles Exited	10	304	12	9	236	13	10	11	11	9	10	13	648
Hourly Exit Rate	10	304	12	9	236	13	10	11	11	9	10	13	648
Input Volume	10	310	10	10	240	10	10	10	10	10	10	10	653
% of Volume	98	98	117	88	98	127	98	107	107	88	98	127	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	592	592
Hourly Exit Rate	592	592
Input Volume	600	600
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	694	694
Hourly Exit Rate	694	694
Input Volume	700	700
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.5	10.5
Vehicles Exited	887	887
Hourly Exit Rate	887	887
Input Volume	890	890
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.8	5.8
Vehicles Exited	1429	1429
Hourly Exit Rate	1429	1429
Input Volume	1439	1439
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	186	186
Hourly Exit Rate	186	186
Input Volume	190	190
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	286	286
Hourly Exit Rate	286	286
Input Volume	290	290
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	384	384
Hourly Exit Rate	384	384
Input Volume	390	390
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	446	446
Hourly Exit Rate	446	446
Input Volume	450	450
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7

Vehicles Exited	214	214
Hourly Exit Rate	214	214
Input Volume	210	210
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	103	103
Hourly Exit Rate	103	103
Input Volume	110	110
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	1080	1080
Hourly Exit Rate	1080	1080
Input Volume	1110	1110
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	582	582
Hourly Exit Rate	582	582
Input Volume	570	570

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	1303	1303
Hourly Exit Rate	1303	1303
Input Volume	1290	1290
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	2.6	3.8	3.2
Vehicles Exited	1099	1211	2310
Hourly Exit Rate	1099	1211	2310
Input Volume	1080	1220	2300
% of Volume	102	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	1712	1712
Hourly Exit Rate	1712	1712
Input Volume	1720	1720
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

56: Performance by movement

Movement	NET	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	1	0.9
Vehicles Exited	1113	416	1529
Hourly Exit Rate	1113	416	1529
Input Volume	1120	410	1530
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

57: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.8	0.8	1.2	1.6
Vehicles Exited	1112	1	601	1714
Hourly Exit Rate	1112	1	601	1714
Input Volume	1120	1	600	1720
% of Volume	99	133	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

58: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	1	0.9
Vehicles Exited	1009	388	1397
Hourly Exit Rate	1009	388	1397
Input Volume	1000	390	1390
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	102	102
Hourly Exit Rate	102	102
Input Volume	99	99
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	548	548
Hourly Exit Rate	548	548
Input Volume	551	551
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.3	6.3
Vehicles Exited	773	773
Hourly Exit Rate	773	773
Input Volume	790	790
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

62: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.8	4.9	3.2

Vehicles Exited	1148	294	1442
Hourly Exit Rate	1148	294	1442
Input Volume	1142	300	1442
% of Volume	101	98	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

63: Performance by movement

Movement	EBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	8.3	0.1	0.3	4.7
Vehicles Exited	1527	1	1284	2812
Hourly Exit Rate	1527	1	1284	2812
Input Volume	1530	0	1280	2810
% of Volume	100	400	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.9	6.9
Vehicles Exited	634	634
Hourly Exit Rate	634	634
Input Volume	630	630
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	613	613
Hourly Exit Rate	613	613
Input Volume	610	610

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	353	353
Hourly Exit Rate	353	353
Input Volume	350	350
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	212	212
Hourly Exit Rate	212	212
Input Volume	210	210
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	225	225
Hourly Exit Rate	225	225
Input Volume	230	230
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	180	180
Hourly Exit Rate	180	180
Input Volume	180	180
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	356	356
Hourly Exit Rate	356	356
Input Volume	360	360
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	672	672
Hourly Exit Rate	672	672
Input Volume	670	670
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

72: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	1349	1349
Hourly Exit Rate	1349	1349
Input Volume	1360	1360
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.6	0	0.3
Total Del/Veh (s)	3.7	5.3	4.5
Vehicles Exited	726	701	1427
Hourly Exit Rate	726	701	1427
Input Volume	720	711	1431
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.3	0.1
Total Del/Veh (s)	1.2	0.4	0.8
Vehicles Exited	391	354	745
Hourly Exit Rate	391	354	745
Input Volume	401	360	761
% of Volume	98	98	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

75: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9

Vehicles Exited	1228	1228
Hourly Exit Rate	1228	1228
Input Volume	1220	1220
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.8	5.8
Vehicles Exited	1071	1071
Hourly Exit Rate	1071	1071
Input Volume	1071	1071
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

77: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.9	0.8	1.3	1.8
Vehicles Exited	1193	5	147	1345
Hourly Exit Rate	1193	5	147	1345
Input Volume	1190	4	150	1344
% of Volume	100	118	98	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	50	50
Hourly Exit Rate	50	50
Input Volume	51	51

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	163	163
Hourly Exit Rate	163	163
Input Volume	160	160
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	168	168
Hourly Exit Rate	168	168
Input Volume	170	170
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	2.1	0.8	1.3	2
Vehicles Exited	1101	8	249	1358
Hourly Exit Rate	1101	8	249	1358
Input Volume	1100	8	260	1368
% of Volume	100	107	96	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	110	110
Hourly Exit Rate	110	110
Input Volume	110	110
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	745	745
Hourly Exit Rate	745	745
Input Volume	740	740
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	3.1	1.7
Vehicles Exited	1234	185	1419
Hourly Exit Rate	1234	185	1419
Input Volume	1231	180	1411
% of Volume	100	103	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.6	0	0.4
Total Del/Veh (s)	0.9	1.2	0.9
Vehicles Exited	664	254	918
Hourly Exit Rate	664	254	918
Input Volume	660	260	920
% of Volume	101	98	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	0.3	3.7	2.7
Vehicles Exited	244	586	830
Hourly Exit Rate	244	586	830
Input Volume	250	590	839
% of Volume	98	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	699	699
Hourly Exit Rate	699	699
Input Volume	711	711
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2

Vehicles Exited	580	580
Hourly Exit Rate	580	580
Input Volume	590	590
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	591	591
Hourly Exit Rate	591	591
Input Volume	590	590
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.7	0	0.4
Total Del/Veh (s)	2.7	5.8	4
Vehicles Exited	769	577	1346
Hourly Exit Rate	769	577	1346
Input Volume	780	580	1360
% of Volume	99	99	99
Denied Entry Before	1	0	1
Denied Entry After	0	0	0

91: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	133	133
Hourly Exit Rate	133	133
Input Volume	130	130

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

92: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	242	242
Hourly Exit Rate	242	242
Input Volume	240	240
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	597	597
Hourly Exit Rate	597	597
Input Volume	610	610
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	63	63
Hourly Exit Rate	63	63
Input Volume	60	60
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	64	64
Hourly Exit Rate	64	64
Input Volume	60	60
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

96: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.8	7.8
Vehicles Exited	1766	1766
Hourly Exit Rate	1766	1766
Input Volume	1760	1760
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	174	174
Hourly Exit Rate	174	174
Input Volume	170	170
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	658	658
Hourly Exit Rate	658	658
Input Volume	660	660
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	209	209
Hourly Exit Rate	209	209
Input Volume	210	210
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

100: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	4.3	2.7
Vehicles Exited	644	765	1409
Hourly Exit Rate	644	765	1409
Input Volume	650	770	1419
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.4	1.5	1.4

Vehicles Exited	1008	276	1284
Hourly Exit Rate	1008	276	1284
Input Volume	1000	280	1280
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	577	577
Hourly Exit Rate	577	577
Input Volume	580	580
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

103: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	1374	1374
Hourly Exit Rate	1374	1374
Input Volume	1370	1370
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	888	888
Hourly Exit Rate	888	888
Input Volume	890	890

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	767	767
Hourly Exit Rate	767	767
Input Volume	760	760
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	1015	1015
Hourly Exit Rate	1015	1015
Input Volume	1010	1010
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	507	507
Hourly Exit Rate	507	507
Input Volume	500	500
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	474	474
Hourly Exit Rate	474	474
Input Volume	460	460
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

109: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1340	1340
Hourly Exit Rate	1340	1340
Input Volume	1340	1340
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.7	7.7
Vehicles Exited	1044	1044
Hourly Exit Rate	1044	1044
Input Volume	1069	1069
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	851	851
Hourly Exit Rate	851	851
Input Volume	860	860
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	348	348
Hourly Exit Rate	348	348
Input Volume	350	350
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	464	464
Hourly Exit Rate	464	464
Input Volume	460	460
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6

Vehicles Exited	530	530
Hourly Exit Rate	530	530
Input Volume	540	540
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	253	253
Hourly Exit Rate	253	253
Input Volume	260	260
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.5	5.5
Vehicles Exited	867	867
Hourly Exit Rate	867	867
Input Volume	880	880
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

117: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	1	0.8
Vehicles Exited	1014	367	1381
Hourly Exit Rate	1014	367	1381
Input Volume	1011	370	1381

% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

118: Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	1.5		1.4	1.5
Vehicles Exited	973	0	302	1275
Hourly Exit Rate	973	0	302	1275
Input Volume	970	0	290	1260
% of Volume	100	0	104	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	509	509
Hourly Exit Rate	509	509
Input Volume	510	510
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.4	6.4
Vehicles Exited	466	466
Hourly Exit Rate	466	466
Input Volume	470	470
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

121: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	82	82
Hourly Exit Rate	82	82
Input Volume	80	80
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

122: NCC Performance by movement

Movement	WBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	4.7	0.7	1.2	2.9
Vehicles Exited	1375	37	1353	2765
Hourly Exit Rate	1375	37	1353	2765
Input Volume	1370	41	1360	2771
% of Volume	100	90	99	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	89	89
Hourly Exit Rate	89	89
Input Volume	90	90
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

124: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	31	31
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

125: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.2	2	2.2
Vehicles Exited	1144	447	1591
Hourly Exit Rate	1144	447	1591
Input Volume	1140	450	1590
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	1589	1589
Hourly Exit Rate	1589	1589
Input Volume	1590	1590
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

127: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2	1.4	1.9

Vehicles Exited	1142	260	1402
Hourly Exit Rate	1142	260	1402
Input Volume	1140	260	1400
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

128: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	679	679
Hourly Exit Rate	679	679
Input Volume	680	680
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

129: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	1402	1402
Hourly Exit Rate	1402	1402
Input Volume	1400	1400
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	1271	1271
Hourly Exit Rate	1271	1271
Input Volume	1260	1260

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	564	564
Hourly Exit Rate	564	564
Input Volume	569	569
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	3.1	5.3	4.3
Vehicles Exited	1062	1234	2296
Hourly Exit Rate	1062	1234	2296
Input Volume	1080	1220	2300
% of Volume	98	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.4	0.4	2.7
Vehicles Exited	646	767	1413
Hourly Exit Rate	646	767	1413
Input Volume	650	770	1419
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

134: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	2.1	1.6
Vehicles Exited	646	766	1412
Hourly Exit Rate	646	766	1412
Input Volume	650	770	1419
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.5	6.5
Vehicles Exited	1513	1513
Hourly Exit Rate	1513	1513
Input Volume	1490	1490
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

136: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	40	40
Hourly Exit Rate	40	40
Input Volume	41	41
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

137: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.3	7.3
Vehicles Exited	496	496
Hourly Exit Rate	496	496
Input Volume	500	500
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

138: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.5	0.3
Total Del/Veh (s)	6.7	0.9	3.3
Vehicles Exited	916	1303	2219
Hourly Exit Rate	916	1303	2219
Input Volume	911	1299	2210
% of Volume	101	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	806	806
Hourly Exit Rate	806	806
Input Volume	800	800
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

140: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6

Vehicles Exited	67	67
Hourly Exit Rate	67	67
Input Volume	70	70
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

141: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	953	953
Hourly Exit Rate	953	953
Input Volume	950	950
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

142: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	35	35
Hourly Exit Rate	35	35
Input Volume	31	31
% of Volume	114	114
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	31	31

% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.4	0.2
Total Del/Veh (s)	3.1	1.9	2.6
Vehicles Exited	474	427	901
Hourly Exit Rate	474	427	901
Input Volume	480	430	910
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

146: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	1.1	1.4
Vehicles Exited	1242	346	1588
Hourly Exit Rate	1242	346	1588
Input Volume	1240	350	1590
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

147: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	916	916
Hourly Exit Rate	916	916
Input Volume	911	911
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

148: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	29	29
Hourly Exit Rate	29	29
Input Volume	31	31
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

149: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	676	676
Hourly Exit Rate	676	676
Input Volume	660	660
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	119	119
Hourly Exit Rate	119	119
Input Volume	121	121
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

151: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	77	77
Hourly Exit Rate	77	77
Input Volume	80	80
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

152: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	391	391
Hourly Exit Rate	391	391
Input Volume	401	401
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	6.7	3.6	5.1
Vehicles Exited	1099	1210	2309
Hourly Exit Rate	1099	1210	2309
Input Volume	1080	1220	2300
% of Volume	102	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.1	5.7	3.4

Vehicles Exited	1355	1376	2731
Hourly Exit Rate	1355	1376	2731
Input Volume	1360	1370	2730
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

156: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.5	3	3.2
Vehicles Exited	827	899	1726
Hourly Exit Rate	827	899	1726
Input Volume	810	900	1709
% of Volume	102	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

157: Crane Rd Performance by movement

Movement	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0
Total Del/Veh (s)	0.6	0.7	1.9	1.5	1.4
Vehicles Exited	114	20	186	10	330
Hourly Exit Rate	114	20	186	10	330
Input Volume	110	20	190	10	331
% of Volume	104	99	98	98	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

158: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	10	10
Hourly Exit Rate	10	10
Input Volume	10	10

% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

159: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	20	20
Hourly Exit Rate	20	20
Input Volume	20	20
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

163: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	901	901
Hourly Exit Rate	901	901
Input Volume	880	880
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

165: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	743	743
Hourly Exit Rate	743	743
Input Volume	750	750
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	31	31
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	42	42
Hourly Exit Rate	42	42
Input Volume	41	41
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	40	40
Hourly Exit Rate	40	40
Input Volume	41	41
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

172: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	249	249
Hourly Exit Rate	249	249
Input Volume	250	250
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	71	71
Hourly Exit Rate	71	71
Input Volume	70	70
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	240	240
Hourly Exit Rate	240	240
Input Volume	240	240
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9

Vehicles Exited	80	80
Hourly Exit Rate	80	80
Input Volume	80	80
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

177: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	321	321
Hourly Exit Rate	321	321
Input Volume	320	320
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

179: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	587	587
Hourly Exit Rate	587	587
Input Volume	590	590
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	105	105
Hourly Exit Rate	105	105
Input Volume	110	110

% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	112	112
Hourly Exit Rate	112	112
Input Volume	110	110
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	508	508
Hourly Exit Rate	508	508
Input Volume	520	520
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	71	71
Hourly Exit Rate	71	71
Input Volume	70	70
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

184: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	29	29
Hourly Exit Rate	29	29
Input Volume	31	31
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

185: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	693	693
Hourly Exit Rate	693	693
Input Volume	690	690
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

186: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	1.8	0.1	1.2
Vehicles Exited	320	207	527
Hourly Exit Rate	320	207	527
Input Volume	320	200	520
% of Volume	100	104	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

187: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	1098	1098
Hourly Exit Rate	1098	1098
Input Volume	1080	1080
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

188: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.1	1	2.4
Vehicles Exited	642	766	1408
Hourly Exit Rate	642	766	1408
Input Volume	650	770	1419
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

190: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1398	1398
Hourly Exit Rate	1398	1398
Input Volume	1390	1390
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

191: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.5	0.5	2.2

Vehicles Exited	328	259	587
Hourly Exit Rate	328	259	587
Input Volume	331	261	592
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

192: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	267	267
Hourly Exit Rate	267	267
Input Volume	270	270
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

193: Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.8	2.1	1.9
Vehicles Exited	1240	471	1711
Hourly Exit Rate	1240	471	1711
Input Volume	1240	480	1720
% of Volume	100	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

194: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.2	0.9	2.8
Vehicles Exited	327	259	586
Hourly Exit Rate	327	259	586
Input Volume	331	261	592

% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

195: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	475	475
Hourly Exit Rate	475	475
Input Volume	480	480
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

196: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4	2.1	3.2
Vehicles Exited	328	258	586
Hourly Exit Rate	328	258	586
Input Volume	331	261	592
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

197: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.5	3.4	2.9
Vehicles Exited	327	257	584
Hourly Exit Rate	327	257	584
Input Volume	331	261	592
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

198: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.4	0.5	1
Vehicles Exited	325	258	583
Hourly Exit Rate	325	258	583
Input Volume	331	260	590
% of Volume	98	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

199: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3	3.1	3
Vehicles Exited	327	255	582
Hourly Exit Rate	327	255	582
Input Volume	331	261	592
% of Volume	99	98	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	1339	1339
Hourly Exit Rate	1339	1339
Input Volume	1340	1340
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

201: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	143	143
Hourly Exit Rate	143	143
Input Volume	149	149
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

202: Bend Performance by approach

Approach	SB	NW	All
Denied Del/Veh (s)	0	0.1	0.1
Total Del/Veh (s)	0.7	0	0.4
Vehicles Exited	58	47	105
Hourly Exit Rate	58	47	105
Input Volume	60	50	110
% of Volume	96	94	95
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

203: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.4	3.6	3.5
Vehicles Exited	470	400	870
Hourly Exit Rate	470	400	870
Input Volume	480	400	880
% of Volume	98	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

204: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0

Vehicles Exited	58	58
Hourly Exit Rate	58	58
Input Volume	60	60
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

205: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	70	70
Hourly Exit Rate	70	70
Input Volume	70	70
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

206: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	1.6	1
Vehicles Exited	1030	242	1272
Hourly Exit Rate	1030	242	1272
Input Volume	1020	240	1260
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

208: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	366	366
Hourly Exit Rate	366	366
Input Volume	370	370

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

209: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	1588	1588
Hourly Exit Rate	1588	1588
Input Volume	1590	1590
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

211: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.3	0.1	0.1	1
Vehicles Exited	1031	1	367	1399
Hourly Exit Rate	1031	1	367	1399
Input Volume	1020	1	370	1391
% of Volume	101	100	99	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

212: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	367	367
Hourly Exit Rate	367	367
Input Volume	370	370
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	602	602
Hourly Exit Rate	602	602
Input Volume	600	600
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

300: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.7	2.5	3.2
Vehicles Exited	1281	903	2184
Hourly Exit Rate	1281	903	2184
Input Volume	1270	900	2170
% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	1285	1285
Hourly Exit Rate	1285	1285
Input Volume	1280	1280
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

500: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.3	0	0.1
Total Del/Veh (s)	1.4	2.2	1.7
Vehicles Exited	870	676	1546
Hourly Exit Rate	870	676	1546
Input Volume	880	660	1540
% of Volume	99	102	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	37.8
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	23
Denied Entry Before	2
Denied Entry After	0

SimTraffic Report
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Queuing and Blocking Report
Baseline 9/3/2014

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	95	227	234	222	114	188	192	216	217	64	140	155	126	121
Average Queue (ft)	32	123	131	123	44	87	73	103	116	18	53	75	44	48
95th Queue (ft)	73	199	204	200	88	154	157	181	190	49	112	135	97	97
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														

Storage Bay Dist (ft)	530				410	580				530	330		300									
Storage Blk Time (%)																						
Queuing Penalty (veh)																						

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	L	T	T	TR
Maximum Queue (ft)	78	269	511	316	136	127	168	167	157	182	183	54	110	118	120	97	75	43	131	96	86	56
Average Queue (ft)	17	115	155	171	52	36	91	99	59	78	83	14	42	51	55	39	32	6	42	38	32	12
95th Queue (ft)	52	212	405	275	106	106	147	148	121	145	151	40	84	91	98	74	68	27	94	72	70	36
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923		3946	3946	3946
Upstream Blk Time (%)																						
Queuing Penalty (veh)																						
Storage Bay Dist (ft)	715				355	920	920	920				750	800						550			
Storage Blk Time (%)				0																		
Queuing Penalty (veh)				0																		

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	309	509	116	344	220	145	226	226	340	511	367
Average Queue (ft)	212	178	14	176	65	53	121	115	229	186	175
95th Queue (ft)	327	545	59	290	180	112	199	189	367	440	292
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250		90		160	185			290		
Storage Blk Time (%)	14	0		34	0		2		13	0	
Queuing Penalty (veh)	26	1		34	0		1		28	0	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	146	187	209	174
Average Queue (ft)	60	80	84	57
95th Queue (ft)	119	146	180	146

Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	NB
Directions Served	TR	L	R
Maximum Queue (ft)	306	132	174
Average Queue (ft)	166	64	69
95th Queue (ft)	290	116	133
Link Distance (ft)	491		672
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		530	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	L	T	T	T	>
Maximum Queue (ft)	106	118	198	119	133	190	136	155	154	127	127	148	126	137	164	111	107
Average Queue (ft)	45	60	98	51	65	91	54	74	74	50	58	62	42	67	78	32	43
95th Queue (ft)	90	101	167	99	110	157	105	130	135	111	111	120	96	113	133	82	85
Link Distance (ft)			1111			1079		737	737	737	737			1038	1038	1038	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300	300		300	300		700					300	550				650
Storage Blk Time (%)																	
Queuing Penalty (veh)																	

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR

Maximum Queue (ft)	154	354	581	602	629	367	129	143	167	201	162	127	178	251	332	344	358	259	313	332	262	281	303
Average Queue (ft)	79	140	310	329	330	161	63	78	99	113	72	29	89	113	180	201	186	80	176	212	176	177	177
95th Queue (ft)	135	335	613	624	648	377	114	123	149	174	140	89	152	198	278	303	301	183	282	308	251	258	280
Link Distance (ft)			4930	4930	4930				3465	3465	3465				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)																							
Queuing Penalty (veh)																							
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)		0	13		14	0							0	0	3		7	0					
Queuing Penalty (veh)		0	34		48	0							0	0	8		13	0					

Intersection: 8: Coffee Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	105	121	158	90	103	76	169	60	54	97	58	97	89	92
Average Queue (ft)	36	60	74	31	52	19	76	18	9	34	14	42	24	37
95th Queue (ft)	87	101	131	68	91	55	136	45	33	77	41	79	64	73
Link Distance (ft)		860	860		880	880		902	902			953	953	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	500			500			600			600	650			650
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	149	221	327	297	199	155	156	157	166	131	194	224	192	178	108	142	117	210
Average Queue (ft)	59	115	201	166	65	73	64	97	93	40	76	135	107	85	47	73	26	88
95th Queue (ft)	132	183	293	260	161	126	123	145	147	89	172	205	173	156	95	125	73	157
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)			1															
Queuing Penalty (veh)			1															

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	155	251	262	188	188	124	154	203	159	254	110	134	104
Average Queue (ft)	71	141	147	96	110	52	60	102	49	135	43	43	36
95th Queue (ft)	133	225	231	162	168	102	121	177	113	221	90	97	75
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								1	0		0	4	0
Queuing Penalty (veh)								0	0		0	4	0

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	130	72	103	204	247	48	122	192	215	158	113	221	258
Average Queue (ft)	46	19	44	81	143	7	50	95	116	78	46	89	125
95th Queue (ft)	100	54	80	176	223	27	105	165	186	128	95	170	216
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		
Storage Blk Time (%)												0	
Queuing Penalty (veh)												0	

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	119	163	163	130	60	146	114	35	50	164	189	170	165	48	296	258	91
Average Queue (ft)	23	75	82	31	19	76	29	2	12	75	116	100	85	10	173	108	36
95th Queue (ft)	72	132	139	85	49	127	76	14	37	146	169	154	153	35	257	215	69
Link Distance (ft)		1375	1375	1375		1274	1274	1274			2052	2052	2052		522	522	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)															0	0	

Queuing Penalty (veh)	0	0

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	322	372	110	224	160	233	378	234	536	160
Average Queue (ft)	168	193	30	96	50	54	178	150	181	74
95th Queue (ft)	277	330	80	182	108	135	311	250	418	154
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			2	21	0		4	8	16	0
Queuing Penalty (veh)			6	31	0		2	27	56	1

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	55	80	76	52	80	52	77	12	12	53	15	22
Average Queue (ft)	15	30	35	14	32	12	28	0	1	10	1	1
95th Queue (ft)	43	66	67	40	65	37	62	7	9	35	9	9
Link Distance (ft)		1163			1019			1058	1058		414	414
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300	300		300	300			300		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	133	138	82	67	62	71	68
Average Queue (ft)	68	66	27	24	14	25	31
95th Queue (ft)	108	118	63	57	44	61	60
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							

Queuing Penalty (veh)					
Storage Bay Dist (ft)		300	400		150
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	160	171	202	228	248	210	150	162	171	201	212	184	84	193	213	232	92	93	195	42	56	147	151	178
Average Queue (ft)	83	93	102	118	133	85	67	83	95	104	114	86	25	79	126	128	34	28	73	4	17	66	55	72
95th Queue (ft)	146	152	187	196	221	157	132	150	152	177	190	167	63	175	208	209	73	70	146	23	43	122	117	142
Link Distance (ft)			1066	1066	1066				1590	1590	1590	1590				1090	1090	1090				1217	1217	
Upstream Blk Time (%)																								
Queuing Penalty (veh)																								
Storage Bay Dist (ft)	800	800				1000	970	970					850	720	720				1000	520	520			720
Storage Blk Time (%)																								
Queuing Penalty (veh)																								

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	TR	L	TR	LT	R
Maximum Queue (ft)	60	18	2	42	64	80	97
Average Queue (ft)	10	1	0	9	20	30	47
95th Queue (ft)	38	9	2	34	53	64	80
Link Distance (ft)			5346		1487	797	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300	300		200			300
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 18: Bentley & Claribel

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	34	40	69	51	59	60
Average Queue (ft)	2	6	24	11	21	10

95th Queue (ft)	16	25	54	38	49	39
Link Distance (ft)	2720	2487	1498		1216	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			4	1	3	1
Queuing Penalty (veh)			0	0	0	0

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	112	168	181	57	206	176	105	124	108	60	77
Average Queue (ft)	50	65	77	23	112	73	49	49	43	20	35
95th Queue (ft)	93	131	142	54	179	140	91	93	87	51	63
Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)					0				1	0	0
Queuing Penalty (veh)					0				1	0	0

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	437	260	240	377	250	309	313	171	468	403
Average Queue (ft)	90	182	158	73	188	105	181	184	54	279	236
95th Queue (ft)	131	341	253	175	314	193	279	275	121	424	370
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	55	34	2	0	2			1	0		
Queuing Penalty (veh)	235	117	7	0	1			3	0		

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB

Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	122	174	199	140	149	170	76	136	205	110	96	163	119
Average Queue (ft)	51	87	90	59	76	83	26	61	80	64	36	67	44
95th Queue (ft)	98	152	164	112	132	146	60	105	155	117	77	123	87
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)				0	0				19	4	0	3	0
Queuing Penalty (veh)				0	0				59	13	0	5	0

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	140	137	49	49	74	148	79	254	228	313	200	216
Average Queue (ft)	52	64	9	8	17	59	25	136	116	170	71	91
95th Queue (ft)	107	119	36	32	50	107	62	221	207	281	156	177
Link Distance (ft)		5602			2237			1498			2123	2123
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	225		225	400		300	400		
Storage Blk Time (%)								0				
Queuing Penalty (veh)								0				

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	38	126	62	75	142	105	186	170	58	173	150	56
Average Queue (ft)	7	56	27	19	49	34	90	53	10	92	58	12
95th Queue (ft)	27	107	53	52	106	78	159	120	37	152	122	40
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)					0							
Queuing Penalty (veh)					0							

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	128	179	149	105	105	167	45	114	115	137	109	86	152	160	121	125
Average Queue (ft)	50	94	72	40	52	80	8	63	41	60	49	26	71	87	32	60
95th Queue (ft)	102	153	125	83	91	142	31	107	91	110	87	64	128	141	85	101
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	600				700	600				600
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 25: Roselle & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	65	35	203	76	80	131	120	155	92	88	85	108	91	37
Average Queue (ft)	17	4	101	17	35	46	42	52	12	21	24	45	33	3
95th Queue (ft)	45	20	172	51	68	96	93	117	54	62	60	89	75	17
Link Distance (ft)			1221		1142	1142		671	671			1058	1058	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	500	500		500			400			400	550			550
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 26: Crane Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L	T	R	L	T	R	R
Maximum Queue (ft)	185	196	129	125	108	42	169	141	162	183	66	43	80	58	74	90	134	133
Average Queue (ft)	90	101	52	52	28	5	75	80	81	89	15	8	23	18	24	29	56	66
95th Queue (ft)	157	164	102	103	76	22	139	129	140	151	42	28	59	43	60	69	103	112
Link Distance (ft)		1598	1598	1598	1598			1342	1342	1342			914			2754	2754	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	750					630	930				630	150		300	275			275

Storage Blk Time (%)																					
Queuing Penalty (veh)																					

Intersection: 27: Albers Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B138	B138
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T	T	R	L	T	T	R	R	T	T
Maximum Queue (ft)	233	222	85	86	37	164	135	92	107	33	47	167	175	110	87	275	249	106	112	74	108
Average Queue (ft)	111	109	23	19	2	73	64	33	46	5	9	75	82	43	26	153	122	53	51	5	13
95th Queue (ft)	195	184	61	60	16	138	111	73	87	19	30	145	153	88	68	243	212	87	95	35	60
Link Distance (ft)		1587	1587	1587				4561	4561			2123	2123			2192	2192			86	86
Upstream Blk Time (%)																				0	0
Queuing Penalty (veh)																				0	0
Storage Bay Dist (ft)	750				750	720	720			670	200			300	200			500	500		
Storage Blk Time (%)												0				2					
Queuing Penalty (veh)												0				1					

Intersection: 28: STERNS & NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	132	67	87	55	44	115	102	38	70	42	56	88
Average Queue (ft)	52	16	30	11	9	41	40	5	21	6	13	41
95th Queue (ft)	101	49	72	37	33	89	85	24	54	27	41	71
Link Distance (ft)		1994	1994			2784	2784		239		629	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	870			570	570			570		100		300
Storage Blk Time (%)									0			
Queuing Penalty (veh)									0			

Intersection: 29: NCC & SR 120/108

Movement	EB	WB	NB
Directions Served	TR	LT	L
Maximum Queue (ft)	89	98	50
Average Queue (ft)	31	23	8
95th Queue (ft)	73	69	32
Link Distance (ft)	2046	1149	1553

Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	84	85	55	60	100	108	121	130	40	61	117	86	107	42
Average Queue (ft)	23	34	15	19	44	34	49	54	5	18	52	32	36	8
95th Queue (ft)	59	67	42	46	86	82	103	112	23	50	95	72	84	31
Link Distance (ft)		882		1222		1038	1038	1038			2422	2422	2422	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	300		300		300				300	300				300
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	122	100	81	88	89	210	248	46	53	91	158	177	61
Average Queue (ft)	56	41	26	34	29	98	118	11	10	38	62	78	16
95th Queue (ft)	103	78	61	71	68	178	209	37	36	73	125	139	45
Link Distance (ft)		430		638		834	834				757	757	757
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	300		300		300			400	450	450			
Storage Blk Time (%)													
Queuing Penalty (veh)													

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T
Maximum Queue (ft)	42	58	55	52	31	4	4	36	4

Average Queue (ft)	8	16	14	13	2	0	0	3	0
95th Queue (ft)	30	44	39	37	15	3	3	20	3
Link Distance (ft)		1233		2041		953	953		1350
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	300		300		300			300	
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	T	R
Maximum Queue (ft)	75	76	47	87	27	3	0	28	4	1	1
Average Queue (ft)	17	19	7	26	3	0	0	4	0	0	0
95th Queue (ft)	50	53	29	66	15	2	0	18	4	1	1
Link Distance (ft)		747		1093		1259	1259		902	902	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300		300		300			300			300
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	L	T	T	R
Maximum Queue (ft)	67	81	48	71	54	4	66	2	8	2
Average Queue (ft)	20	25	10	20	11	0	17	0	0	0
95th Queue (ft)	55	63	36	55	38	3	47	2	6	2
Link Distance (ft)		636		496		370		1357	1357	1357
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	300		300		300		300			
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	88	66	148	120	79	74	107
Average Queue (ft)	30	25	55	41	28	16	39
95th Queue (ft)	67	57	114	94	62	52	91
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Davis & Claribel Realigned (N)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	57	64	16	20
Average Queue (ft)	21	25	1	1
95th Queue (ft)	50	56	8	10
Link Distance (ft)	662	702		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			50	50
Storage Blk Time (%)			0	0
Queuing Penalty (veh)			0	0

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	85	57	211	68	123	144	87	95	130
Average Queue (ft)	32	13	93	20	50	66	30	31	49
95th Queue (ft)	69	42	163	50	103	119	69	72	101
Link Distance (ft)		1110	417		1217	1217		1028	1028
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	T	T	R	L	L	T	T
Maximum Queue (ft)	93	126	214	253	71	122	134	105	119
Average Queue (ft)	31	50	103	118	23	51	75	25	46
95th Queue (ft)	70	98	177	206	59	101	116	71	93
Link Distance (ft)	437		1878	1878				841	841
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		300			300	890	890		
Storage Blk Time (%)				0					
Queuing Penalty (veh)				0					

Intersection: 39: STERNS

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	83	90	48	7	39	5
Average Queue (ft)	37	39	4	0	5	0
95th Queue (ft)	66	71	25	4	24	3
Link Distance (ft)	660	1331		629		945
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200		200	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 40: NCC

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	TR	LT	TR	LT	TR
Maximum Queue (ft)	42	4	41	7	45	37	47	31
Average Queue (ft)	3	0	3	0	5	2	5	2
95th Queue (ft)	20	4	19	8	25	17	27	15
Link Distance (ft)	3082	3082	3429	3429	651	651	937	937
Upstream Blk Time (%)								
Queuing Penalty (veh)								

Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 56:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 57:

Movement	B299	B299
Directions Served	T	
Maximum Queue (ft)	47	38
Average Queue (ft)	3	2
95th Queue (ft)	24	17
Link Distance (ft)	377	377
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 58:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	

Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 62: NCC SPUI

Movement	B129
Directions Served	T
Maximum Queue (ft)	2
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	502
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 63:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 77:

Movement	
Directions Served	

Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 81:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 84: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 101:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 117: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 118:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 122: NCC

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 125: NCC SPUI & NCC

Movement	B209
Directions Served	T
Maximum Queue (ft)	3
Average Queue (ft)	0
95th Queue (ft)	3
Link Distance (ft)	552
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 127:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	

Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 146:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 154: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	2
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	1590
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 157: Crane Rd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)

95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 186: Bend

Movement	EB	EB
Directions Served	T	
Maximum Queue (ft)	18	18
Average Queue (ft)	1	1
95th Queue (ft)	14	14
Link Distance (ft)	437	437
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 193:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 206:

Movement

Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 211:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary
Network wide Queuing Penalty: 770

SimTraffic Performance Report
2022 Alternative 2A AM Peak Hour
9/3/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.2	0.1	1.2	0	0	0	2.1	0.4	0.4	2.5	0.2	0.2	0.3
Total Del/Veh (s)	34.5	22.3	6.9	35.3	20	9.8	29.2	20.2	6.9	35.3	30.1	14.5	22.1
Vehicles Exited	36	646	111	174	951	51	181	63	20	22	78	51	2384
Hourly Exit Rate	36	646	111	174	951	51	181	63	20	22	78	51	2384
Input Volume	40	640	110	170	950	50	180	60	20	20	80	50	2370
% of Volume	91	101	101	102	100	102	101	105	99	109	97	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0
Total Del/Veh (s)	34.7	22.7	15.4	27.9	13	3.6	21.7	18.2	2.2	26	22	7.5	17.5
Vehicles Exited	29	433	227	360	1042	19	90	70	117	28	101	51	2567
Hourly Exit Rate	29	433	227	360	1042	19	90	70	117	28	101	51	2567
Input Volume	30	432	220	360	1030	20	90	70	120	30	100	50	2551
% of Volume	97	100	103	100	101	94	100	100	98	94	101	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.3	0	0	0	0	0	0	0.3	0.1	0.1	0.1
Total Del/Veh (s)	47.8	21.9	12.4	59.8	35.8	13.2	50.2	32.7	19.4	48.7	32.8	27.5	32.1
Vehicles Exited	133	147	42	10	431	126	19	306	10	66	438	229	1957
Hourly Exit Rate	133	147	42	10	431	126	19	306	10	66	438	229	1957
Input Volume	130	150	40	10	420	130	20	300	10	70	440	220	1942
% of Volume	102	98	106	98	102	97	94	102	98	94	100	104	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	16.5	5.1	7.9	0.2	12.5	10.9
Vehicles Exited	230	13	324	96	492	1155
Hourly Exit Rate	230	13	324	96	492	1155
Input Volume	230	10	320	90	491	1140
% of Volume	100	127	101	107	100	101
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	0.7	0.7	0	0.5
Total Del/Veh (s)	11.3	4.4	15.7	6.1	4	8.9
Vehicles Exited	211	12	231	563	95	1112
Hourly Exit Rate	211	12	231	563	95	1112
Input Volume	220	10	230	560	90	1110
% of Volume	96	117	100	101	106	100
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 Performance by movement

Movement	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	15.6	18.5	19.5	19.9	19.7	11.9	4.3	16.8	12.1	6.3	13.8
Vehicles Exited	47	108	230	219	91	296	92	38	496	224	1841
Hourly Exit Rate	47	108	230	219	91	296	92	38	496	224	1841
Input Volume	50	110	230	210	90	302	90	40	501	210	1831
% of Volume	94	98	100	104	101	98	103	96	99	107	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.1	0.4	0.1	0.2	0.3	0.1	0.2	2.9	0.1	0.2	0.2
Total Del/Veh (s)	47.4	31.5	6.8	47.2	35.7	12.5	45.3	31	7.3	42.1	29.2	14.4	31.1
Vehicles Exited	258	616	188	213	958	283	179	685	119	102	556	133	4290
Hourly Exit Rate	258	616	188	213	958	283	179	685	119	102	556	133	4290
Input Volume	260	600	180	210	960	280	190	670	120	100	560	130	4259
% of Volume	99	103	104	102	100	101	94	102	99	102	99	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

8: Coffee Rd Performance by movement

Movement	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	24.3	11.9	20.9	29.6	19.5	4.8	2.6	27.3	15.8	11.6	14.2
Vehicles Exited	39	69	266	20	324	181	205	20	267	274	1665
Hourly Exit Rate	39	69	266	20	324	181	205	20	267	274	1665
Input Volume	40	70	270	20	320	181	200	20	271	270	1661
% of Volume	98	98	99	99	101	100	103	99	99	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.9	0.1	2.9	1.1	0.1	0.1	2.8	0.1	0.1	3	0.1	3	1
Total Del/Veh (s)	44.1	23.8	7.5	39.5	32	11.9	31.6	14.1	7	37.8	28.6	10.3	25.1
Vehicles Exited	129	368	215	77	847	65	382	375	61	30	398	220	3167
Hourly Exit Rate	129	368	215	77	847	65	382	375	61	30	398	220	3167
Input Volume	130	370	220	80	850	60	380	370	60	30	400	210	3160
% of Volume	99	99	98	96	100	108	101	101	102	101	100	105	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.6	0.1	0.1	0.3	0.1	0.1	1.7	0.2	0.1	1.7	0.3	1.7	0.4
Total Del/Veh (s)	42.7	13.4	6.2	41.9	13	9.5	39.9	29.3	30.4	45.7	35.8	8.5	21.6

Vehicles Exited	29	284	53	171	586	41	114	47	92	43	88	83	1631
Hourly Exit Rate	29	284	53	171	586	41	114	47	92	43	88	83	1631
Input Volume	30	290	50	180	590	40	120	50	90	50	90	80	1660
% of Volume	97	98	106	95	99	103	95	94	103	86	98	103	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.4	0.1	0.3	0.3	3.4	0	0	0	0.3	0.1	0.1	0.4
Total Del/Veh (s)	23.1	39.6	7.2	24.1	36.6	3.4	35	16.6	6.1	33.2	18.3	13.3	18
Vehicles Exited	85	22	67	378	11	51	31	229	235	39	502	40	1690
Hourly Exit Rate	85	22	67	378	11	51	31	229	235	39	502	40	1690
Input Volume	80	20	70	390	10	50	30	230	230	40	500	40	1690
% of Volume	106	109	95	97	107	102	104	99	102	98	100	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.2	3.4	3.7	0.1	3.6	0.3	0.1	0.2	2.7	0.4	2.9	0.8
Total Del/Veh (s)	53.3	26	2.1	42.9	36.8	3.7	33.6	8.8	3.5	42.5	31.8	7.8	25.1
Vehicles Exited	163	108	202	10	210	11	577	371	20	9	600	299	2580
Hourly Exit Rate	163	108	202	10	210	11	577	371	20	9	600	299	2580
Input Volume	160	110	200	10	210	10	570	370	20	10	610	290	2570
% of Volume	102	98	101	98	100	107	101	100	99	88	98	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.5	0.4	0.4	3.7	0.4	0.4	2.1	0.8	2	0.8
Total Del/Veh (s)	35.7	20.2	13.3	56.5	35.5	15.1	28.7	33.3	22.3	31.7	30.3	7.8	26.8
Vehicles Exited	118	223	23	20	320	180	49	191	39	160	133	156	1612
Hourly Exit Rate	118	223	23	20	320	180	49	191	39	160	133	156	1612
Input Volume	120	220	20	20	320	180	50	190	40	160	130	150	1600

% of Volume	98	101	114	99	100	100	98	100	98	100	102	104	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.7	3.8	3.9	0.4	4	0	0	0	0	0	0	0.9
Total Del/Veh (s)	12.3	13.4	5.1	10.5	13.8	2.4	4.4	2.7	1.2	2.9	0.7	0.2	3.9
Vehicles Exited	29	49	144	39	48	30	19	268	18	19	369	9	1041
Hourly Exit Rate	29	49	144	39	48	30	19	268	18	19	369	9	1041
Input Volume	30	50	140	40	50	30	20	270	20	20	370	10	1051
% of Volume	97	98	103	98	96	101	94	99	89	94	100	88	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.6	3.7	0.5
Total Del/Veh (s)	10.8	5.1	15	3.8	14.3	4.4	7.7
Vehicles Exited	235	135	197	451	80	168	1266
Hourly Exit Rate	235	135	197	451	80	168	1266
Input Volume	230	140	200	450	80	170	1270
% of Volume	102	96	99	100	100	99	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	24.4	17.6	3.2	28.2	19	3.6	29.2	19.8	2.5	32.1	31.2	10	18.3
Vehicles Exited	197	771	144	125	576	39	126	180	88	28	180	298	2752
Hourly Exit Rate	197	771	144	125	576	39	126	180	88	28	180	298	2752
Input Volume	190	770	150	120	580	40	130	180	90	30	180	300	2761
% of Volume	104	100	96	104	99	98	97	100	98	94	100	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	1.7	0.3	0.2	0.2	0.5	3.9	1.2
Total Del/Veh (s)	1.8	1.1	2.6	1.5	6.2	3.2	2.6
Vehicles Exited	66	127	150	40	60	120	563
Hourly Exit Rate	66	127	150	40	60	120	563
Input Volume	70	130	160	40	60	120	580
% of Volume	94	98	94	101	100	100	97
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

18: Bentley & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	3.9	0.4	4	4	0.2	4	0.3
Total Del/Veh (s)	28.2	11.7	3.6	29.3	18.1	4	27.8	15.1	5.8	30.4	21.9	5.8	15.9
Vehicles Exited	100	727	61	20	658	10	67	41	24	11	79	20	1818
Hourly Exit Rate	100	727	61	20	658	10	67	41	24	11	79	20	1818
Input Volume	100	730	60	20	650	10	70	40	20	10	80	20	1811
% of Volume	100	100	102	99	101	98	95	103	119	107	98	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.2	0.2	0.2	3.8	0.4	0.4	2	0.6	2	0.9
Total Del/Veh (s)	20.4	9.4	4.8	21.7	11.6	4.8	16.2	10.8	5.1	15.5	11.6	4.5	10.9
Vehicles Exited	70	278	50	36	130	69	89	60	24	107	56	141	1110
Hourly Exit Rate	70	278	50	36	130	69	89	60	24	107	56	141	1110
Input Volume	70	280	50	40	130	70	90	60	20	110	60	140	1121
% of Volume	100	99	100	91	100	98	99	100	119	97	93	101	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.4	0.4	0.3	0.1	0.1	1.6	0.6	1.7	0.1	0.1	0.1	0.4
Total Del/Veh (s)	49.7	29.2	18.6	41.1	28.2	8.6	33	32.8	6.7	35.1	30.2	22.3	27.9
Vehicles Exited	73	244	81	65	151	295	96	314	70	288	430	18	2125
Hourly Exit Rate	73	244	81	65	151	295	96	314	70	288	430	18	2125
Input Volume	70	240	80	70	160	290	100	320	70	290	430	20	2140
% of Volume	104	102	101	93	95	102	96	98	100	99	100	89	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.8	0.1	0.2	0.3	0.1	0.1	2	0.7	2	0.3	0.3	0.2	0.7
Total Del/Veh (s)	32.5	19.4	9.8	31	14.7	7.3	29.1	18.6	5.8	33.3	27.4	9.1	20.2
Vehicles Exited	48	211	160	149	233	41	254	110	83	28	152	83	1552
Hourly Exit Rate	48	211	160	149	233	41	254	110	83	28	152	83	1552
Input Volume	50	210	150	150	230	40	260	110	80	30	150	80	1539
% of Volume	96	101	107	99	101	103	98	100	103	94	102	103	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	3.5	0.2	3.5	0	0	0	2.8	0.2	0.3	0.5
Total Del/Veh (s)	33.9	35.3	9.3	29.2	29	10.1	39.2	22.7	7	38.1	21.6	16.4	22.9
Vehicles Exited	66	30	52	74	137	138	50	785	37	90	758	84	2301
Hourly Exit Rate	66	30	52	74	137	138	50	785	37	90	758	84	2301
Input Volume	70	30	50	70	140	140	50	791	40	90	760	80	2312
% of Volume	94	101	104	105	98	98	100	99	93	100	100	105	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	4	2.5	0.1	0.2	3.4	0.1	0.2	3.1	0.1	3.1	0.5
Total Del/Veh (s)	17.5	18.2	2.7	17.1	14.7	2.7	16.1	5.5	2.1	14.4	5.9	3.3	6.3

Vehicles Exited	21	10	20	29	10	10	18	408	79	9	519	28	1161
Hourly Exit Rate	21	10	20	29	10	10	18	408	79	9	519	28	1161
Input Volume	20	10	20	30	10	10	20	410	80	10	520	30	1172
% of Volume	104	98	99	97	98	98	89	99	98	88	100	94	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	17.3	0.1	17.7	16.6	0.1	19.3	19.5	5.3	4.5	23.6	8.4	6.5	8.2
Vehicles Exited	51	1	32	128	1	27	31	418	370	28	582	339	2008
Hourly Exit Rate	51	1	32	128	1	27	31	418	370	28	582	339	2008
Input Volume	50	1	30	130	1	30	30	411	370	30	591	340	2013
% of Volume	102	133	108	98	133	91	104	102	100	94	98	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

25: Roselle & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	15.9	0	13.7	16.6	15.2	16.5	6.1	3.5	21	10.6	3.8	10.4
Vehicles Exited	9	1	90	132	43	142	254	194	42	458	53	1418
Hourly Exit Rate	9	1	90	132	43	142	254	194	42	458	53	1418
Input Volume	10	1	90	130	40	150	260	190	40	461	50	1422
% of Volume	88	100	100	101	108	95	98	102	106	99	106	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

26: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	690	690
Hourly Exit Rate	690	690
Input Volume	700	700

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

27: NCC & Albers Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.5	0.4	0.4	0	0	0	0.1
Total Del/Veh (s)	25.4	16.6	4.1	28.9	26.4	7.1	40.7	22.7	6.8	41.3	26	10.9	20.1
Vehicles Exited	596	132	31	208	145	31	8	243	230	31	323	534	2512
Hourly Exit Rate	596	132	31	208	145	31	8	243	230	31	323	534	2512
Input Volume	600	132	30	210	142	30	10	250	230	30	321	530	2514
% of Volume	99	100	104	99	102	104	78	97	100	104	101	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0
Total Del/Veh (s)	3.9	7.4	3.3	3.6	6.2	2.2	3.5	4.4	2.6	2.8	3.5	2.8	5.2
Vehicles Exited	170	209	10	10	236	9	9	9	11	8	12	141	834
Hourly Exit Rate	170	209	10	10	236	9	9	9	11	8	12	141	834
Input Volume	170	210	10	10	231	10	10	10	10	10	11	140	834
% of Volume	100	100	98	98	102	88	88	88	107	78	107	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.1	0	0	0	0	0	0	0.2	0.2	0.2	0
Total Del/Veh (s)	5.2	9	1.6	5.3	7.9	3.1	1.8	5.3	3.5	6	6.9	3.7	6.4
Vehicles Exited	17	260	30	200	481	12	9	10	209	20	24	105	1377
Hourly Exit Rate	17	260	30	200	481	12	9	10	209	20	24	105	1377
Input Volume	20	260	30	200	460	10	10	10	210	20	20	100	1350
% of Volume	84	100	101	100	105	117	88	98	100	99	119	105	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.2	4.1	0.1	0.2	0	0	0	1.6	0.1	1.3	0.2
Total Del/Veh (s)	11.6	9.4	2.9	11.3	8.5	2.5	12.8	4.6	2.8	11.1	3.1	1.7	4.1
Vehicles Exited	23	10	18	9	11	12	8	542	11	8	732	11	1395
Hourly Exit Rate	23	10	18	9	11	12	8	542	11	8	732	11	1395
Input Volume	20	10	20	10	10	10	10	540	10	10	720	10	1383
% of Volume	114	98	89	88	107	117	78	100	107	78	102	107	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.1	0.2	4	0.1	0.2	3.3	0.2	3.3	0	0	0	0.3
Total Del/Veh (s)	18.1	15.3	5.8	18.7	14.8	4.7	14.7	3.8	1.4	16.1	4.9	1.1	5.5
Vehicles Exited	20	9	22	29	9	38	32	419	21	30	765	39	1433
Hourly Exit Rate	20	9	22	29	9	38	32	419	21	30	765	39	1433
Input Volume	20	10	20	30	10	40	30	420	20	30	770	40	1441
% of Volume	99	88	109	97	88	96	108	100	104	101	99	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	3.7	0.2	3.2	0.3
Total Del/Veh (s)	10.1	10.8	3.8	10.9	11.3	2.4	4.3	1.7	1.3	1.7	0.6	1.9	1.7
Vehicles Exited	11	12	13	20	10	10	9	222	11	9	530	13	870
Hourly Exit Rate	11	12	13	20	10	10	9	222	11	9	530	13	870
Input Volume	10	10	10	20	10	10	10	221	10	10	530	10	864
% of Volume	107	117	127	99	98	98	88	100	107	88	100	127	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.2	0.3	0.1	4.2	0.2	0.2	3	0.3	3.2	0	0	0.1	0.3
Total Del/Veh (s)	28.7	16.8	4.1	19.1	23	6.9	3.6	0.8	2	7.2	2.6	2.2	2.6
Vehicles Exited	18	11	10	8	11	21	11	671	11	20	560	22	1374
Hourly Exit Rate	18	11	10	8	11	21	11	671	11	20	560	22	1374
Input Volume	20	10	10	10	10	20	10	660	10	20	571	20	1373
% of Volume	89	107	98	78	107	104	107	102	107	99	98	109	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.2	4	0.2	0.2	2.7	0.4	3	0	0	0	0.3
Total Del/Veh (s)	28.9	22	6.3	18.7	29.1	6.4	5	0.8	0.3	7.2	2.9	1.3	3
Vehicles Exited	30	11	30	18	9	19	9	772	12	9	722	11	1652
Hourly Exit Rate	30	11	30	18	9	19	9	772	12	9	722	11	1652
Input Volume	30	10	30	20	10	20	10	760	10	10	731	10	1652
% of Volume	101	107	101	89	88	94	88	102	117	88	99	107	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	2.3	0.2	0.2	0.2	0	0	0.1
Total Del/Veh (s)	10.6	4.9	4	1.6	12.1	5.3	4.9
Vehicles Exited	20	96	493	21	21	659	1310
Hourly Exit Rate	20	96	493	21	21	659	1310
Input Volume	20	100	500	20	20	660	1320
% of Volume	99	96	99	104	104	100	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Davis & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	3.9	0.2	0.2	0	0	0	0.3
Total Del/Veh (s)	5.1	6.5	3.1	5.4	7.3	2.5	2.1	0.3	0.2	2.4	0.7	0.5	1.7

Vehicles Exited	10	9	11	9	10	11	13	77	11	7	73	10	251
Hourly Exit Rate	10	9	11	9	10	11	13	77	11	7	73	10	251
Input Volume	10	10	10	10	10	10	10	80	10	10	70	10	253
% of Volume	98	88	107	88	98	107	127	96	107	68	104	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.2	0.2	0.2	0	0	0	3.2	0.2	0.3	0.2
Total Del/Veh (s)	11.8	8.3	4	11.1	11.1	4.9	19	7.9	5.6	15.5	6.4	3.5	7.4
Vehicles Exited	58	12	30	82	11	12	8	305	102	17	392	71	1100
Hourly Exit Rate	58	12	30	82	11	12	8	305	102	17	392	71	1100
Input Volume	60	12	30	80	10	10	10	300	100	20	400	70	1103
% of Volume	97	102	101	102	107	117	78	102	102	84	98	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.1	1.1	0	0	0.1
Total Del/Veh (s)	12.2	3	0.7	0.9	3	2	2
Vehicles Exited	39	38	357	37	37	412	920
Hourly Exit Rate	39	38	357	37	37	412	920
Input Volume	40	40	360	40	40	410	930
% of Volume	98	96	99	93	93	100	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0.1	0.1	3.9	0.4	1.5
Total Del/Veh (s)	5.6	0.5	3.7	1.3	0.1	1.5	0.7	2.6
Vehicles Exited	17	1	170	9	20	140	12	369
Hourly Exit Rate	17	1	170	9	20	140	12	369
Input Volume	20	1	170	10	20	140	10	372

% of Volume	84	80	100	88	99	100	117	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

40: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	576	576
Hourly Exit Rate	576	576
Input Volume	571	571
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	323	323
Hourly Exit Rate	323	323
Input Volume	320	320
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.3	6.3
Vehicles Exited	565	565
Hourly Exit Rate	565	565
Input Volume	561	561
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.5	9.5
Vehicles Exited	679	679
Hourly Exit Rate	679	679
Input Volume	680	680
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.7	6.7
Vehicles Exited	1226	1226
Hourly Exit Rate	1226	1226
Input Volume	1210	1210
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	117	117
Hourly Exit Rate	117	117
Input Volume	120	120
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	199	199
Hourly Exit Rate	199	199
Input Volume	200	200
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	458	458
Hourly Exit Rate	458	458
Input Volume	449	449
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	158	158
Hourly Exit Rate	158	158
Input Volume	159	159
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7

Vehicles Exited	199	199
Hourly Exit Rate	199	199
Input Volume	200	200
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	144	144
Hourly Exit Rate	144	144
Input Volume	150	150
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9	9
Vehicles Exited	1272	1272
Hourly Exit Rate	1272	1272
Input Volume	1280	1280
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.3	6.3
Vehicles Exited	986	986
Hourly Exit Rate	986	986
Input Volume	1000	1000

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	810	810
Hourly Exit Rate	810	810
Input Volume	820	820
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.1	0.1
Total Del/Veh (s)	2	0.7	1.4
Vehicles Exited	885	737	1622
Hourly Exit Rate	885	737	1622
Input Volume	889	740	1629
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	1553	1553
Hourly Exit Rate	1553	1553
Input Volume	1550	1550
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

56: Performance by movement

Movement	NET	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.4	0.5	0.5
Vehicles Exited	421	154	575
Hourly Exit Rate	421	154	575
Input Volume	420	160	580
% of Volume	100	96	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

57: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	0.9		0.3	0.7
Vehicles Exited	421	0	130	551
Hourly Exit Rate	421	0	130	551
Input Volume	420	0	130	551
% of Volume	100	0	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

58: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	1.1	1
Vehicles Exited	1104	450	1554
Hourly Exit Rate	1104	450	1554
Input Volume	1110	440	1550
% of Volume	99	102	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	86	86
Hourly Exit Rate	86	86
Input Volume	90	90
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	577	577
Hourly Exit Rate	577	577
Input Volume	590	590
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	306	306
Hourly Exit Rate	306	306
Input Volume	310	310
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

62: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.9	3.3	2.1

Vehicles Exited	875	100	975
Hourly Exit Rate	875	100	975
Input Volume	880	100	980
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

63: Performance by movement

Movement	EBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	5.7	0.4	0.3	1.9
Vehicles Exited	576	1	1417	1994
Hourly Exit Rate	576	1	1417	1994
Input Volume	580	1	1410	1991
% of Volume	99	133	101	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3
Vehicles Exited	420	420
Hourly Exit Rate	420	420
Input Volume	420	420
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	364	364
Hourly Exit Rate	364	364
Input Volume	360	360

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	136	136
Hourly Exit Rate	136	136
Input Volume	140	140
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	333	333
Hourly Exit Rate	333	333
Input Volume	340	340
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	119	119
Hourly Exit Rate	119	119
Input Volume	120	120
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	150	150
Hourly Exit Rate	150	150
Input Volume	150	150
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	364	364
Hourly Exit Rate	364	364
Input Volume	360	360
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	1090	1090
Hourly Exit Rate	1090	1090
Input Volume	1070	1070
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

72: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	1109	1109
Hourly Exit Rate	1109	1109
Input Volume	1110	1110
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.3	0	0.2
Total Del/Veh (s)	2.2	2.2	2.2
Vehicles Exited	400	360	760
Hourly Exit Rate	400	360	760
Input Volume	400	360	760
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.3	0.2
Total Del/Veh (s)	1.2	0.4	0.8
Vehicles Exited	326	398	724
Hourly Exit Rate	326	398	724
Input Volume	329	401	730
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

75: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4	2.2	3.1

Vehicles Exited	759	685	1444
Hourly Exit Rate	759	685	1444
Input Volume	760	681	1441
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.6	5.6
Vehicles Exited	1183	1183
Hourly Exit Rate	1183	1183
Input Volume	1180	1180
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

77: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	1.8		1.6	1.8
Vehicles Exited	825	0	196	1021
Hourly Exit Rate	825	0	196	1021
Input Volume	840	0	200	1040
% of Volume	98	0	98	98
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	29	29
Hourly Exit Rate	29	29
Input Volume	31	31

% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	56	56
Hourly Exit Rate	56	56
Input Volume	60	60
% of Volume	93	93
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	98	98
Hourly Exit Rate	98	98
Input Volume	101	101
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.9	1.2	1.7
Vehicles Exited	874	236	1110
Hourly Exit Rate	874	236	1110
Input Volume	880	230	1110
% of Volume	99	103	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	82	82
Hourly Exit Rate	82	82
Input Volume	80	80
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	409	409
Hourly Exit Rate	409	409
Input Volume	410	410
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.2	2.4	1.4
Vehicles Exited	826	174	1000
Hourly Exit Rate	826	174	1000
Input Volume	840	170	1010
% of Volume	98	102	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.3	0	0.1
Total Del/Veh (s)	0.4	1.9	1.3
Vehicles Exited	372	531	903
Hourly Exit Rate	372	531	903
Input Volume	370	530	900
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.6	0	0.3
Total Del/Veh (s)	0.8	2.8	1.5
Vehicles Exited	647	405	1052
Hourly Exit Rate	647	405	1052
Input Volume	650	400	1050
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	360	360
Hourly Exit Rate	360	360
Input Volume	360	360
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5

Vehicles Exited	568	568
Hourly Exit Rate	568	568
Input Volume	570	570
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	439	439
Hourly Exit Rate	439	439
Input Volume	441	441
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.4	0	0.1
Total Del/Veh (s)	1.5	5.9	4.3
Vehicles Exited	419	722	1141
Hourly Exit Rate	419	722	1141
Input Volume	410	720	1129
% of Volume	102	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.3	6.8	4.9
Vehicles Exited	890	745	1635
Hourly Exit Rate	890	745	1635
Input Volume	890	741	1630

% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

92: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.8	3	4.5
Vehicles Exited	760	688	1448
Hourly Exit Rate	760	688	1448
Input Volume	760	681	1441
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	490	490
Hourly Exit Rate	490	490
Input Volume	490	490
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	161	161
Hourly Exit Rate	161	161
Input Volume	160	160
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	152	152
Hourly Exit Rate	152	152
Input Volume	150	150
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

96: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6	6
Vehicles Exited	836	836
Hourly Exit Rate	836	836
Input Volume	820	820
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	187	187
Hourly Exit Rate	187	187
Input Volume	190	190
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	570	570
Hourly Exit Rate	570	570
Input Volume	570	570
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	77	77
Hourly Exit Rate	77	77
Input Volume	80	80
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

100: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	999	999
Hourly Exit Rate	999	999
Input Volume	1010	1010
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	1.5	1.5

Vehicles Exited	1103	315	1418
Hourly Exit Rate	1103	315	1418
Input Volume	1110	300	1410
% of Volume	99	105	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	721	721
Hourly Exit Rate	721	721
Input Volume	720	720
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

103: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	1021	1021
Hourly Exit Rate	1021	1021
Input Volume	1040	1040
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	812	812
Hourly Exit Rate	812	812
Input Volume	820	820

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	566	566
Hourly Exit Rate	566	566
Input Volume	560	560
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	1447	1447
Hourly Exit Rate	1447	1447
Input Volume	1440	1440
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	784	784
Hourly Exit Rate	784	784
Input Volume	790	790
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	313	313
Hourly Exit Rate	313	313
Input Volume	320	320
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

109: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	0.9	0.9
Vehicles Exited	440	225	665
Hourly Exit Rate	440	225	665
Input Volume	440	220	660
% of Volume	100	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.2	6.2
Vehicles Exited	460	460
Hourly Exit Rate	460	460
Input Volume	460	460
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	543	543
Hourly Exit Rate	543	543
Input Volume	540	540
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	525	525
Hourly Exit Rate	525	525
Input Volume	520	520
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	296	296
Hourly Exit Rate	296	296
Input Volume	290	290
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2

Vehicles Exited	376	376
Hourly Exit Rate	376	376
Input Volume	370	370
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	532	532
Hourly Exit Rate	532	532
Input Volume	530	530
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	422	422
Hourly Exit Rate	422	422
Input Volume	430	430
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

117: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.5	0.7	0.6
Vehicles Exited	868	155	1023
Hourly Exit Rate	868	155	1023
Input Volume	880	160	1040

% of Volume	99	97	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

118: Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	1.7		1.4	1.6
Vehicles Exited	868	0	370	1238
Hourly Exit Rate	868	0	370	1238
Input Volume	880	0	370	1251
% of Volume	99	0	100	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	577	577
Hourly Exit Rate	577	577
Input Volume	580	580
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	266	266
Hourly Exit Rate	266	266
Input Volume	280	280
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

121: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	130	130
Hourly Exit Rate	130	130
Input Volume	130	130
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

122: NCC Performance by movement

Movement	WBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.5	0.4	1.1	1.3
Vehicles Exited	1000	2	1107	2109
Hourly Exit Rate	1000	2	1107	2109
Input Volume	1011	1	1110	2122
% of Volume	99	200	100	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	272	272
Hourly Exit Rate	272	272
Input Volume	270	270
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

124: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	33	33
Hourly Exit Rate	33	33
Input Volume	31	31
% of Volume	107	107
Denied Entry Before	0	0
Denied Entry After	0	0

125: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	0.5	1.2
Vehicles Exited	581	85	666
Hourly Exit Rate	581	85	666
Input Volume	580	80	660
% of Volume	100	106	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	665	665
Hourly Exit Rate	665	665
Input Volume	660	660
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

128: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.4	1.4	1.4

Vehicles Exited	580	396	976
Hourly Exit Rate	580	396	976
Input Volume	580	400	980
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

129: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	677	677
Hourly Exit Rate	677	677
Input Volume	680	680
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	1238	1238
Hourly Exit Rate	1238	1238
Input Volume	1250	1250
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	SW	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	562	562
Hourly Exit Rate	562	562
Input Volume	559	559

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.1	2.4	3.3
Vehicles Exited	760	685	1445
Hourly Exit Rate	760	685	1445
Input Volume	760	681	1441
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3	2.7	2.8
Vehicles Exited	390	383	773
Hourly Exit Rate	390	383	773
Input Volume	390	380	770
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

134: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	887	887
Hourly Exit Rate	887	887
Input Volume	889	889
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3
Vehicles Exited	958	958
Hourly Exit Rate	958	958
Input Volume	950	950
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

136: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.2	0.2	2.3
Vehicles Exited	389	385	774
Hourly Exit Rate	389	385	774
Input Volume	390	380	770
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

137: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	0.8	0.8
Vehicles Exited	389	384	773
Hourly Exit Rate	389	384	773
Input Volume	390	380	770
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

138: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	975	975
Hourly Exit Rate	975	975
Input Volume	980	980
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	604	604
Hourly Exit Rate	604	604
Input Volume	600	600
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

140: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.9	8.9
Vehicles Exited	680	680
Hourly Exit Rate	680	680
Input Volume	660	660
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

141: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5

Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	30	30
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

142: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	179	179
Hourly Exit Rate	179	179
Input Volume	180	180
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	594	594
Hourly Exit Rate	594	594
Input Volume	570	570
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	3.3	0.5	1.7
Vehicles Exited	489	692	1181
Hourly Exit Rate	489	692	1181
Input Volume	490	670	1160

% of Volume	100	103	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	39	39
Hourly Exit Rate	39	39
Input Volume	41	41
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

146: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	488	488
Hourly Exit Rate	488	488
Input Volume	490	490
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

148: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	27	27
Hourly Exit Rate	27	27
Input Volume	31	31
% of Volume	88	88
Denied Entry Before	0	0
Denied Entry After	0	0

149: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	689	689
Hourly Exit Rate	689	689
Input Volume	680	680
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	31	31
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

151: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	93	93
Hourly Exit Rate	93	93
Input Volume	91	91
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

152: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	326	326
Hourly Exit Rate	326	326
Input Volume	329	329
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

153: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.1	0.1
Total Del/Veh (s)	0.4	0	0.2
Vehicles Exited	73	78	151
Hourly Exit Rate	73	78	151
Input Volume	80	80	159
% of Volume	92	98	95
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.3	1.5	4.7
Vehicles Exited	882	738	1620
Hourly Exit Rate	882	738	1620
Input Volume	889	740	1629
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1	4.6	2.7

Vehicles Exited	1108	998	2106
Hourly Exit Rate	1108	998	2106
Input Volume	1110	1011	2121
% of Volume	100	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

156: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.5	3.1	1.9
Vehicles Exited	394	449	843
Hourly Exit Rate	394	449	843
Input Volume	400	450	850
% of Volume	98	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

157: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	106	106
Hourly Exit Rate	106	106
Input Volume	110	110
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

158: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.4	2.6	2.5
Vehicles Exited	390	385	775
Hourly Exit Rate	390	385	775
Input Volume	390	380	770

% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

159: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	745	745
Hourly Exit Rate	745	745
Input Volume	741	741
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

163: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	769	769
Hourly Exit Rate	769	769
Input Volume	780	780
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

164: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	31	31
Hourly Exit Rate	31	31
Input Volume	31	31
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

165: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	0.8	4.1	2.3
Vehicles Exited	890	745	1635
Hourly Exit Rate	890	745	1635
Input Volume	890	741	1630
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	33	33
Hourly Exit Rate	33	33
Input Volume	31	31
% of Volume	107	107
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	43	43
Hourly Exit Rate	43	43
Input Volume	41	41
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	42	42
Hourly Exit Rate	42	42
Input Volume	41	41
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

172: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	270	270
Hourly Exit Rate	270	270
Input Volume	280	280
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	29	29
Hourly Exit Rate	29	29
Input Volume	31	31
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6

Vehicles Exited	175	175
Hourly Exit Rate	175	175
Input Volume	171	171
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	42	42
Hourly Exit Rate	42	42
Input Volume	40	40
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

177: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	73	73
Hourly Exit Rate	73	73
Input Volume	80	80
% of Volume	92	92
Denied Entry Before	0	0
Denied Entry After	0	0

178: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	31	31

% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

179: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	405	405
Hourly Exit Rate	405	405
Input Volume	400	400
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	81	81
Hourly Exit Rate	81	81
Input Volume	80	80
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	60	60
Hourly Exit Rate	60	60
Input Volume	60	60
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	242	242
Hourly Exit Rate	242	242
Input Volume	240	240
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	31	31
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

185: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	451	451
Hourly Exit Rate	451	451
Input Volume	450	450
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

186: Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	0.5	0.6
Vehicles Exited	442	108	550
Hourly Exit Rate	442	108	550
Input Volume	440	110	550
% of Volume	100	98	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

187: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1	1.7	1.2
Vehicles Exited	955	284	1239
Hourly Exit Rate	955	284	1239
Input Volume	962	290	1252
% of Volume	99	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

189: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	598	598
Hourly Exit Rate	598	598
Input Volume	590	590
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

190: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6

Vehicles Exited	665	665
Hourly Exit Rate	665	665
Input Volume	660	660
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

192: Performance by movement

Movement	WBT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	0.2	0.9
Vehicles Exited	956	598	1554
Hourly Exit Rate	956	598	1554
Input Volume	960	590	1550
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

193: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	598	598
Hourly Exit Rate	598	598
Input Volume	590	590
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

194: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	550	550
Hourly Exit Rate	550	550
Input Volume	550	550

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	1023	1023
Hourly Exit Rate	1023	1023
Input Volume	1040	1040
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	130	130
Hourly Exit Rate	130	130
Input Volume	130	130
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

300: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.6	2.5	2.1
Vehicles Exited	479	833	1312
Hourly Exit Rate	479	833	1312
Input Volume	480	840	1320
% of Volume	100	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1419	1419
Hourly Exit Rate	1419	1419
Input Volume	1410	1410
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

500: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.1	0	0
Total Del/Veh (s)	0.4	1.9	1.5
Vehicles Exited	278	690	968
Hourly Exit Rate	278	690	968
Input Volume	280	680	960
% of Volume	99	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	32.4
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	24
Denied Entry Before	0
Denied Entry After	0

Queuing and Blocking Report
Baseline 9/3/2014

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	96	168	191	206	93	239	194	229	228	63	215	112	83	170
Average Queue (ft)	30	92	93	108	40	113	83	118	128	18	104	32	18	68
95th Queue (ft)	73	150	164	179	77	201	170	202	208	47	181	77	55	133
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	530				410	580				530	330		300	
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	L	T	T	TR
Maximum Queue (ft)	90	132	144	164	158	148	181	178	198	227	233	48	57	67	60	65	55	26	80	73	79	67
Average Queue (ft)	26	52	60	76	69	34	89	98	73	93	106	7	16	25	18	24	11	1	21	31	21	21
95th Queue (ft)	66	108	120	145	135	103	149	156	151	175	186	29	46	51	48	53	37	14	55	61	57	53
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923		3946	3946	3946
Upstream Blk Time (%)																						
Queuing Penalty (veh)																						
Storage Bay Dist (ft)	715				355	920	920	920				750	800						550			
Storage Blk Time (%)																						
Queuing Penalty (veh)																						

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	252	219	91	485	220	70	215	197	154	290	336
Average Queue (ft)	111	85	14	296	110	20	102	98	59	153	200

95th Queue (ft)	201	173	55	485	259	55	182	171	123	261	319
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				2							
Queuing Penalty (veh)				9							
Storage Bay Dist (ft)	250		90		160	185			290		
Storage Blk Time (%)	0	0	0	42	0		1			0	
Queuing Penalty (veh)	1	0	1	59	0		0			0	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	180	169	222	210
Average Queue (ft)	100	73	94	70
95th Queue (ft)	164	142	195	164
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	205	164	132	63
Average Queue (ft)	76	84	15	22
95th Queue (ft)	157	140	108	53
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		530		
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB

Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	L	T	T	T	>
Maximum Queue (ft)	45	67	148	115	118	218	119	115	115	79	64	61	86	124	148	106	133
Average Queue (ft)	5	25	65	53	68	110	48	50	42	16	19	9	24	63	68	22	53
95th Queue (ft)	25	57	122	99	108	184	101	92	89	53	48	37	65	109	125	70	99
Link Distance (ft)			1111			1079		737	737	737	737			1038	1038	1038	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300	300		300	300		700					300	550				650
Storage Blk Time (%)																	
Queuing Penalty (veh)																	

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	190	202	201	225	225	117	165	186	299	322	293	250	151	159	223	246	217	130	118	154	275	241	195
Average Queue (ft)	95	113	119	131	117	57	72	97	176	196	169	111	65	85	134	148	117	39	20	70	170	144	103
95th Queue (ft)	167	181	185	201	195	98	140	162	267	292	273	225	127	142	201	223	198	90	69	128	248	221	187
Link Distance (ft)			4930	4930	4930				3467	3467	3467				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)																							
Queuing Penalty (veh)																							
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)									0		0				0		1	0					
Queuing Penalty (veh)									1		0				0		1	0					

Intersection: 8: Coffee Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	24	60	88	120	145	76	269	72	152	75	65	134	124	216
Average Queue (ft)	1	16	32	50	70	19	131	16	11	19	18	62	47	85
95th Queue (ft)	12	44	72	102	116	56	221	46	112	53	49	111	100	163
Link Distance (ft)		860	860		880	880		902	902			952	952	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	500			500			600			600	650			650
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	141	175	227	184	86	132	182	292	294	240	249	287	197	172	85	270	246	178
Average Queue (ft)	29	79	113	63	8	48	66	179	184	127	112	168	83	65	28	156	104	77
95th Queue (ft)	92	144	191	144	43	99	141	262	270	227	226	259	157	130	66	240	208	141
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)								0			0	0				0	0	0
Queuing Penalty (veh)								0			0	0				0	0	0

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	91	150	154	126	127	197	235	183	119	162	128	177	131
Average Queue (ft)	27	65	58	55	74	84	100	88	38	70	44	75	49
95th Queue (ft)	71	121	120	105	115	160	184	158	93	132	96	146	104
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								0			0	11	1
Queuing Penalty (veh)								0			0	15	2

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	146	79	88	206	248	42	99	110	136	126	98	190	247
Average Queue (ft)	54	21	35	74	135	8	29	46	56	58	30	81	125
95th Queue (ft)	115	58	71	171	220	28	71	90	109	102	74	155	215
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		

Storage Blk Time (%)	0	0
Queuing Penalty (veh)	0	0

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	160	192	111	64	53	188	151	52	44	292	308	138	135	45	354	302	160
Average Queue (ft)	49	101	41	9	11	98	50	3	7	169	198	65	46	9	216	156	70
95th Queue (ft)	133	175	88	37	36	159	118	23	28	266	280	118	108	32	319	270	127
Link Distance (ft)		1374	1374	1374		1274	1274	1274			2052	2052	2052		564	564	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)															1	0	
Queuing Penalty (veh)															0	0	

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	180	227	127	522	210	132	299	215	309	159
Average Queue (ft)	79	102	27	216	107	38	146	98	92	62
95th Queue (ft)	149	189	84	406	229	94	258	181	208	123
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			1	40	0		2	1	7	0
Queuing Penalty (veh)			5	80	2		1	4	21	1

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	L	T	TR
Maximum Queue (ft)	68	94	102	80	73	58	41	10	49	6	14
Average Queue (ft)	22	34	54	25	27	18	6	0	5	0	1
95th Queue (ft)	54	75	90	59	57	45	27	6	27	4	7
Link Distance (ft)		1163			1019			1058		414	414

Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300		300	300		300	300		300
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	123	116	192	100	98	111	81
Average Queue (ft)	61	61	83	33	35	44	46
95th Queue (ft)	103	104	147	81	82	86	75
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		300	400				150
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	131	152	215	230	193	85	49	82	101	139	164	149	50	31	113	115	119	120	69	31	55	135	124	196
Average Queue (ft)	50	75	103	126	59	35	8	26	42	73	80	48	10	1	38	48	46	45	24	3	17	58	46	72
95th Queue (ft)	104	127	176	199	148	70	30	65	83	124	138	110	33	12	79	92	92	96	54	18	42	109	103	143
Link Distance (ft)			1066	1066	1066				1607	1607	1607	1607				1090	1090	1090				1218	1218	
Upstream Blk Time (%)																								
Queuing Penalty (veh)																								
Storage Bay Dist (ft)	800	800				1000	970	970					850	720	720				1000	520	520			720
Storage Blk Time (%)																								
Queuing Penalty (veh)																								

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	WB	SB	SB
Directions Served	L	TR	L	R
Maximum Queue (ft)	59	15	83	76

Average Queue (ft)	11	1	33	42
95th Queue (ft)	42	9	67	68
Link Distance (ft)		5348	826	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	300			300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Bentley & NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L	T	R
Maximum Queue (ft)	155	170	176	60	60	230	216	31	130	72	48	43	113	60
Average Queue (ft)	63	72	84	14	16	99	106	4	48	20	10	9	42	9
95th Queue (ft)	122	138	151	41	44	182	180	18	97	56	34	31	90	34
Link Distance (ft)		2743	2743			2396	2396			1461			1179	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	680			580	770			720	200		300	150		200
Storage Blk Time (%)													0	
Queuing Penalty (veh)													0	

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	122	102	123	96	105	94	118	103	125	91	109
Average Queue (ft)	42	36	50	31	46	35	52	43	52	29	45
95th Queue (ft)	92	77	100	74	88	77	98	86	100	71	84
Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)									1	1	1
Queuing Penalty (veh)									2	2	1

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	247	221	141	197	220	262	259	91	357	312
Average Queue (ft)	65	95	106	53	84	78	136	137	37	215	177
95th Queue (ft)	115	185	180	107	158	160	219	217	74	324	282
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	27	29	1					0			
Queuing Penalty (veh)	88	78	1					0			

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	107	131	162	206	148	136	175	194	170	109	105	226	152
Average Queue (ft)	37	61	73	92	47	51	67	99	61	40	30	98	50
95th Queue (ft)	81	110	136	171	104	110	137	160	131	90	77	183	113
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)				1			0	0	13	1	0	9	0
Queuing Penalty (veh)				1			0	0	45	5	1	10	0

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	136	70	91	131	128	107	115	125	262	278	72	167	286	305
Average Queue (ft)	52	20	35	50	48	27	41	43	150	160	17	63	140	164
95th Queue (ft)	109	53	75	104	99	72	87	96	245	253	50	123	247	266
Link Distance (ft)		5602			2173	2173			1385	1385			2186	2186
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	225		225	225			225	400			300	400		
Storage Blk Time (%)				0						0			0	
Queuing Penalty (veh)				0						0			0	

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	60	47	50	80	58	59	135	90	43	132	112	51
Average Queue (ft)	16	7	10	24	14	13	46	26	9	59	35	9
95th Queue (ft)	45	28	32	62	42	40	101	67	33	110	85	34
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	37	80	88	74	95	74	72	99	70	109	131	79	121	147	89	149
Average Queue (ft)	4	27	25	21	41	22	24	37	14	41	61	19	49	63	14	60
95th Queue (ft)	22	64	62	55	78	57	58	81	50	90	108	57	103	122	58	113
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	600				700	600				600
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 25: Roselle & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	25	10	125	83	88	78	138	94	54	71	86	128	129	46
Average Queue (ft)	3	0	50	21	43	28	57	32	5	19	21	51	45	5
95th Queue (ft)	15	5	97	57	76	66	112	76	30	52	55	100	98	25
Link Distance (ft)			1221		1142	1142		671	671			1058	1058	
Upstream Blk Time (%)														
Queuing Penalty (veh)														

Storage Bay Dist (ft)	500	500		500			400			400	550			550	
Storage Blk Time (%)															
Queuing Penalty (veh)															

Intersection: 27: NCC & Albers Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T	R	L	T
Maximum Queue (ft)	262	274	79	83	73	123	129	99	106	62	44	251	118	66	265
Average Queue (ft)	130	131	21	32	16	49	61	36	44	18	6	107	47	16	111
95th Queue (ft)	222	224	57	72	49	104	109	82	90	48	25	205	91	50	224
Link Distance (ft)			1128	1128				3079	3079			2741			1385
Upstream Blk Time (%)															
Queuing Penalty (veh)															
Storage Bay Dist (ft)	920	920			580	720	720			580	200		300	200	
Storage Blk Time (%)												1			2
Queuing Penalty (veh)												3			0

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	TR	LT	TR	LT	TR
Maximum Queue (ft)	76	25	73	11	38	30	36	75
Average Queue (ft)	7	1	22	0	5	1	3	14
95th Queue (ft)	39	13	61	7	26	14	18	50
Link Distance (ft)	2831	2831	3950	3950	413	413	847	847
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 29: NCC & SR 120/108

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LT	LT	TR	LT	R	LTR
Maximum Queue (ft)	106	94	35	35	49	95
Average Queue (ft)	39	20	2	4	3	36
95th Queue (ft)	84	67	19	21	22	80

Link Distance (ft)	2191	1153	1153	3950	3950	267
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	62	60	37	54	32	69	81	86	36	33	92	82	94	28
Average Queue (ft)	16	15	6	12	7	11	21	24	2	7	33	14	23	2
95th Queue (ft)	48	41	26	35	26	44	60	67	14	27	71	52	67	14
Link Distance (ft)		882		1209		1038	1038	1038			2422	2422	2422	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	300		300		300				300	300				300
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	70	56	70	62	73	97	79	44	16	67	124	151	59
Average Queue (ft)	17	17	21	23	21	36	20	6	1	22	46	65	10
95th Queue (ft)	51	44	53	50	53	80	57	27	10	53	105	123	39
Link Distance (ft)		429		638		834	834				757	757	757
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	300		300		300			400	450	450			
Storage Blk Time (%)													
Queuing Penalty (veh)													

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	L	L	T

Maximum Queue (ft)	52	60	59	56	36	33	2
Average Queue (ft)	10	17	15	12	4	2	0
95th Queue (ft)	37	45	45	37	22	17	2
Link Distance (ft)		1250		2010			1356
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300		300		300	300	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	NB	SB
Directions Served	L	TR	L	TR	L	T	T	L
Maximum Queue (ft)	76	62	50	77	22	5	0	40
Average Queue (ft)	18	17	8	25	3	0	0	5
95th Queue (ft)	53	48	31	61	14	4	1	21
Link Distance (ft)		737		1093		1259	1259	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	300		300		300			300
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	L	T	T	R
Maximum Queue (ft)	88	81	76	72	36	7	36	5	9	1
Average Queue (ft)	28	29	19	24	5	0	5	0	0	0
95th Queue (ft)	68	63	55	59	25	3	22	5	7	1
Link Distance (ft)		636		496		370		1357	1357	1357
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	300		300		300		300			
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	57	98	124	108	71	99	113
Average Queue (ft)	16	44	41	32	18	29	50
95th Queue (ft)	48	80	95	81	52	75	102
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Davis & Claribel Realigned (N)

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	L	TR
Maximum Queue (ft)	62	67	30	12	5
Average Queue (ft)	23	26	2	1	0
95th Queue (ft)	53	58	15	9	6
Link Distance (ft)	662	702			1110
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			50	50	
Storage Blk Time (%)			0	0	0
Queuing Penalty (veh)			0	0	0

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	87	75	119	32	112	121	67	91	140
Average Queue (ft)	35	24	49	6	29	48	16	29	59
95th Queue (ft)	72	60	90	25	76	97	49	71	113
Link Distance (ft)		1110	417		1218	1218		1028	1028
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)									

Queuing Penalty (veh)

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	R	T	T	R	L	L
Maximum Queue (ft)	76	64	2	6	7	10	56
Average Queue (ft)	26	23	0	0	0	0	14
95th Queue (ft)	60	52	2	6	6	7	41
Link Distance (ft)	437		1878	1878			
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		300			300	890	890
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (ft)	56	89	20	48
Average Queue (ft)	14	51	1	6
95th Queue (ft)	43	80	11	30
Link Distance (ft)	847	847	795	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 56:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)

Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 57:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 58:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 62: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)

95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 63:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 77:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 81:

Movement

Directions Served		
Maximum Queue (ft)		
Average Queue (ft)		
95th Queue (ft)		
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 84: NCC SPUI

Movement		
Directions Served		
Maximum Queue (ft)		
Average Queue (ft)		
95th Queue (ft)		
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 90: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	82	35
Average Queue (ft)	3	0
95th Queue (ft)	58	0
Link Distance (ft)	586	586
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 101:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 109:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 117: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)

Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 118:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 122: NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 125: NCC SPUI & NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)

Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 128:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 186:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 187:

Movement
Directions Served
Maximum Queue (ft)

Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 192:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary
Network wide Queuing Penalty: 440

SimTraffic Performance Report
2022 Alternative 2A PM Peak Hour
9/3/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1	0.1	0.8	0	0	0	1.9	0.3	0.3	2.1	0.2	0.3	0.2
Total Del/Veh (s)	32.6	17.7	5.9	35.2	16.9	7.4	29.8	24.8	11.6	29.7	26.8	13.5	18.2
Vehicles Exited	40	963	156	85	966	44	83	89	97	57	81	11	2672
Hourly Exit Rate	40	963	156	85	966	44	83	89	97	57	81	11	2672
Input Volume	40	970	150	90	962	40	80	90	100	60	80	10	2671
% of Volume	101	99	104	95	100	111	103	99	97	95	101	107	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	36.2	29.3	14.6	30.1	6.3	3.2	23	19.8	4.7	29.6	26.1	7	16.1
Vehicles Exited	17	936	171	310	1595	39	252	155	482	70	145	20	4192
Hourly Exit Rate	17	936	171	310	1595	39	252	155	482	70	145	20	4192
Input Volume	20	940	170	310	1590	40	250	160	480	70	140	20	4192
% of Volume	84	100	101	100	100	98	101	97	100	100	103	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.4	0.3	0	0	0	0	0	0	0.3	0.2	0.2	0.2
Total Del/Veh (s)	73.5	33.4	25.5	60.9	37.4	9.3	51.6	35.5	27.4	72	33.1	26.1	39.9
Vehicles Exited	188	315	21	10	304	98	56	437	10	213	478	188	2318
Hourly Exit Rate	188	315	21	10	304	98	56	437	10	213	478	188	2318
Input Volume	190	310	20	10	310	90	60	430	10	220	480	190	2322
% of Volume	99	102	104	98	98	109	93	102	98	97	100	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	16	4.7	7.9	0.7	11.8	8.5
Vehicles Exited	100	12	489	268	508	1377
Hourly Exit Rate	100	12	489	268	508	1377
Input Volume	100	10	490	260	511	1370
% of Volume	100	117	100	103	99	100
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	0.4	0.4	0	0.2
Total Del/Veh (s)	24.3	11.3	17.9	3.4	7.1	13.7
Vehicles Exited	527	10	102	410	269	1318
Hourly Exit Rate	527	10	102	410	269	1318
Input Volume	532	10	100	410	260	1312
% of Volume	99	98	102	100	104	100
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	19.8	0.7	19.4	19.9	0.2	21.4	17.3	11.9	5.3	20.7	17.1	7.5	14.5
Vehicles Exited	232	1	200	192	1	140	129	583	427	102	449	138	2594
Hourly Exit Rate	232	1	200	192	1	140	129	583	427	102	449	138	2594
Input Volume	230	1	200	200	1	140	130	580	430	100	450	140	2602
% of Volume	101	133	100	96	133	100	99	100	99	102	100	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.2	0.3	0.1	0.2	0.3	0.1	0.2	2.2	0.3	0.4	0.4
Total Del/Veh (s)	40.2	55.9	16.4	40.6	31.2	4.3	46	41.1	19	39.1	26.2	19.8	35.7
Vehicles Exited	255	980	368	269	590	152	281	914	291	482	907	225	5714
Hourly Exit Rate	255	980	368	269	590	152	281	914	291	482	907	225	5714
Input Volume	260	980	370	270	600	160	290	910	290	490	910	220	5749
% of Volume	98	100	99	100	98	95	97	100	100	98	100	102	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

8: Coffee Rd Performance by movement

Movement	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	17.5	15	15.7	30.5	18.9	6	3.5	30	16.8	7.1	13.2
Vehicles Exited	367	127	221	12	246	203	291	20	232	130	1849
Hourly Exit Rate	367	127	221	12	246	203	291	20	232	130	1849
Input Volume	360	130	220	10	240	201	290	20	221	140	1834
% of Volume	102	98	100	117	102	101	100	99	105	93	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2	0.1	2	1.2	0.1	0.1	2.9	0.1	0.1	3.1	0.1	3.2	1
Total Del/Veh (s)	36.4	23.5	7.5	34	26.7	8.4	30.7	18.3	9.2	35.3	27.8	8.8	22.5
Vehicles Exited	298	940	397	58	528	78	324	403	80	57	245	216	3624
Hourly Exit Rate	298	940	397	58	528	78	324	403	80	57	245	216	3624
Input Volume	300	940	400	60	530	80	320	400	80	60	240	200	3610
% of Volume	99	100	99	97	100	98	101	101	100	95	102	108	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.4	0.2	0.2	0.3	0.1	0.1	1.5	0.2	0.1	2	0.3	1.8	0.4
Total Del/Veh (s)	51.7	25.4	19	46	18	12.5	45.9	33.6	41.8	58.3	43.5	6.8	32.4

Vehicles Exited	92	609	126	369	384	31	138	80	268	48	58	44	2247
Hourly Exit Rate	92	609	126	369	384	31	138	80	268	48	58	44	2247
Input Volume	90	620	130	370	380	30	140	80	280	50	60	40	2270
% of Volume	103	98	97	100	101	104	98	100	96	96	97	111	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.3	0.2	0.4	0.2	3.3	0	0	0	0.2	0.1	0.1	0.3
Total Del/Veh (s)	24.8	38.5	7.1	27.1	40.7	3.4	37.6	19.6	7.6	35.7	20.2	15.7	19.6
Vehicles Exited	82	20	97	359	12	41	62	476	354	58	501	40	2102
Hourly Exit Rate	82	20	97	359	12	41	62	476	354	58	501	40	2102
Input Volume	80	20	100	360	10	40	60	490	360	60	500	40	2120
% of Volume	102	99	97	100	117	103	103	97	98	97	100	101	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.6	0.5	2.9	3.6	0.1	3.6	0.3	0.1	0.2	2.8	0.3	3	1
Total Del/Veh (s)	39.8	20.7	5	34.1	29.5	4.8	32.2	12.5	6.8	36	25.6	6.2	18.8
Vehicles Exited	210	280	664	15	196	19	337	688	43	18	608	160	3238
Hourly Exit Rate	210	280	664	15	196	19	337	688	43	18	608	160	3238
Input Volume	210	290	650	20	200	20	340	680	40	20	600	160	3230
% of Volume	100	97	102	74	98	94	99	101	108	89	101	100	100
Denied Entry Before	0	0	1	0	0	0	0	0	0	0	0	0	1
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.3	0.4	0.3	3.6	0.4	0.4	2.4	1	2.4	0.8
Total Del/Veh (s)	46.4	31	24.7	64.9	44.3	16.3	37.1	43.5	34	43.9	44.1	12.4	36.7
Vehicles Exited	238	463	32	28	278	121	62	220	29	215	185	175	2046
Hourly Exit Rate	238	463	32	28	278	121	62	220	29	215	185	175	2046
Input Volume	240	460	30	30	280	120	60	220	30	220	180	170	2040

% of Volume	99	101	108	94	99	101	103	100	97	98	103	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4	0.5	3.9	3.9	0.4	3.9	0	0	0	0	0	0	0.7
Total Del/Veh (s)	16.7	18.9	4.7	19.6	18.3	2.5	6.3	3.3	1.2	3.1	0.8	0.2	5.3
Vehicles Exited	21	46	101	46	63	22	127	364	22	28	311	22	1173
Hourly Exit Rate	21	46	101	46	63	22	127	364	22	28	311	22	1173
Input Volume	20	50	100	50	60	20	130	371	20	30	310	20	1182
% of Volume	104	92	101	92	105	109	98	98	109	94	100	109	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.6	3.8	0.5
Total Del/Veh (s)	14.1	9.5	19.7	3	22.5	6	11.2
Vehicles Exited	555	211	247	358	51	198	1620
Hourly Exit Rate	555	211	247	358	51	198	1620
Input Volume	560	210	240	350	50	200	1610
% of Volume	99	101	103	102	102	99	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	26.2	22.5	4.8	25.3	21.6	4	27.6	15.3	3.1	28.7	26.1	9.3	19.4
Vehicles Exited	309	651	203	237	551	55	230	138	199	41	192	272	3078
Hourly Exit Rate	309	651	203	237	551	55	230	138	199	41	192	272	3078
Input Volume	300	661	200	240	540	50	230	131	200	40	190	280	3062
% of Volume	103	98	102	99	102	110	100	105	100	103	101	97	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	1.6	0.5	0.2	0.2	0.5	3.8	1.2
Total Del/Veh (s)	3.7	2.2	3.5	1.5	9.6	3.5	3.7
Vehicles Exited	199	175	159	54	66	120	773
Hourly Exit Rate	199	175	159	54	66	120	773
Input Volume	190	170	160	50	60	120	750
% of Volume	105	103	100	108	110	100	103
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

18: Bentley & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	4	0.3	3.9	3.7	0.5	3.8	0.4
Total Del/Veh (s)	28.2	15	4.5	23.8	12.5	3.4	28.8	15.8	6.1	27.7	17.7	6.8	13.8
Vehicles Exited	28	750	112	68	673	10	28	83	22	10	75	125	1984
Hourly Exit Rate	28	750	112	68	673	10	28	83	22	10	75	125	1984
Input Volume	30	760	110	70	680	10	30	80	20	10	70	120	1991
% of Volume	94	99	102	97	99	98	94	103	109	98	107	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.5	0.5	0.4	3.9	0.3	0.4	2.1	0.4	2.1	0.7
Total Del/Veh (s)	20.7	9.1	5.2	23.4	13.3	6.6	17.6	14.2	5.8	18	14.7	4.7	12
Vehicles Exited	88	458	40	30	424	66	89	46	63	91	38	90	1523
Hourly Exit Rate	88	458	40	30	424	66	89	46	63	91	38	90	1523
Input Volume	90	460	40	30	430	70	90	50	60	90	40	90	1538
% of Volume	98	100	101	101	99	94	99	92	105	101	96	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.4	0.4	0.2	0.1	0.1	1.6	0.7	1.6	0.1	0.1	0.1	0.4
Total Del/Veh (s)	64.8	28.7	18.6	43.7	37.3	12.7	34.4	35.8	7.4	41.1	36.1	28	31.8
Vehicles Exited	63	313	72	19	242	358	121	459	52	298	395	65	2457
Hourly Exit Rate	63	313	72	19	242	358	121	459	52	298	395	65	2457
Input Volume	60	300	70	20	240	360	120	460	50	300	410	70	2462
% of Volume	105	104	102	94	101	99	101	100	104	99	96	93	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.7	0.1	0.2	0.3	0.1	0.1	2	0.7	2	0.2	0.2	0.3	0.6
Total Del/Veh (s)	30.9	17.6	8.6	29.7	16.4	9.2	28.6	22.2	7.4	31.8	25.1	8.2	18.3
Vehicles Exited	69	266	177	105	352	81	145	166	184	77	121	81	1824
Hourly Exit Rate	69	266	177	105	352	81	145	166	184	77	121	81	1824
Input Volume	70	270	180	110	350	80	140	170	190	80	120	80	1841
% of Volume	98	99	98	95	101	101	103	98	97	96	101	101	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.3	3.7	0.2	3.7	0	0	0	2.7	0.3	0.3	0.6
Total Del/Veh (s)	37.2	28.8	14.7	32.7	32.5	9.2	35.1	29.2	8.5	36.8	23.6	18.2	26.3
Vehicles Exited	105	165	50	49	58	123	48	727	72	178	748	83	2406
Hourly Exit Rate	105	165	50	49	58	123	48	727	72	178	748	83	2406
Input Volume	110	170	50	50	60	120	50	730	70	180	750	80	2420
% of Volume	95	97	100	98	97	102	96	100	102	99	100	103	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.2	0.2	4.1	2.6	0.2	0.2	3.1	0.1	0.2	3.4	0.1	3.4	0.5
Total Del/Veh (s)	18.9	19.6	2.7	18.9	16.7	2.8	19.3	7.3	2.6	19.9	6.7	3.6	8.1

Vehicles Exited	10	20	31	39	22	12	22	521	37	21	379	21	1135
Hourly Exit Rate	10	20	31	39	22	12	22	521	37	21	379	21	1135
Input Volume	10	20	30	40	20	10	20	530	40	20	380	20	1141
% of Volume	98	99	104	98	109	117	109	98	93	104	100	104	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0		0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	18.9		23	16.2	22.4	16.8	9.7	3.9	22.7	13.5	6.7	13
Vehicles Exited	315	0	117	183	73	10	502	182	47	617	288	2334
Hourly Exit Rate	315	0	117	183	73	10	502	182	47	617	288	2334
Input Volume	320	0	120	180	70	10	520	180	50	621	290	2362
% of Volume	99	0	98	102	104	98	96	101	94	99	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

25: Roselle & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	19.4	0.2	15.9	18.2	0	20.6	14.7	7.3	3.9	23.4	14.2	3.4	12.1
Vehicles Exited	51	9	252	87	4	68	127	394	219	45	382	31	1669
Hourly Exit Rate	51	9	252	87	4	68	127	394	219	45	382	31	1669
Input Volume	50	8	250	90	4	70	120	400	210	50	381	30	1663
% of Volume	102	106	101	97	94	97	106	98	104	90	100	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

26: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	698	698
Hourly Exit Rate	698	698
Input Volume	700	700

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

27: NCC & Albers Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.5	0.4	0.5	0	0	0	0.1
Total Del/Veh (s)	20.7	16.9	3.6	25.6	24.9	8.3	33	21.3	8.7	34.7	22.7	12.4	17.8
Vehicles Exited	585	181	12	222	152	58	10	199	312	28	224	592	2575
Hourly Exit Rate	585	181	12	222	152	58	10	199	312	28	224	592	2575
Input Volume	590	190	10	220	160	60	10	200	300	30	230	590	2592
% of Volume	99	95	117	101	95	97	98	100	104	94	97	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0
Total Del/Veh (s)	5.2	8	4.2	3.1	6.1	2.1	4	5.8	2.8	3	3.7	3	5.4
Vehicles Exited	252	262	12	7	180	10	7	11	12	20	10	244	1027
Hourly Exit Rate	252	262	12	7	180	10	7	11	12	20	10	244	1027
Input Volume	250	260	10	10	180	10	10	10	10	20	10	250	1032
% of Volume	101	101	117	68	100	98	68	107	117	99	98	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.2	0	0	0	0	0	0	0.2	0.1	0.1	0.1
Total Del/Veh (s)	8.3	11.6	2.3	5.2	7.7	2.5	3.9	6.8	3.8	5.8	5.8	3	7.6
Vehicles Exited	102	417	12	164	420	13	30	31	232	19	21	30	1491
Hourly Exit Rate	102	417	12	164	420	13	30	31	232	19	21	30	1491
Input Volume	100	410	10	170	410	10	30	30	230	20	20	30	1471
% of Volume	102	102	117	96	102	127	101	102	101	94	104	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.3	0.2	4.1	0.1	0.2	0	0	0	1.7	0.2	1.6	0.2
Total Del/Veh (s)	17.7	15.5	4.7	17.1	13.9	5.1	17.8	7.2	3.6	20.9	7.3	2.3	8.1
Vehicles Exited	40	12	101	18	19	22	80	855	20	21	572	22	1782
Hourly Exit Rate	40	12	101	18	19	22	80	855	20	21	572	22	1782
Input Volume	40	10	100	20	20	20	80	850	20	20	570	20	1772
% of Volume	101	117	101	89	94	109	100	101	99	104	100	109	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.3	0.4	4	0.2	0.3	2.6	0.3	2.6	0	0	0	0.5
Total Del/Veh (s)	23.9	23	6.4	25.7	28.2	11	26.6	9.3	3.1	24.9	7	1.6	9.9
Vehicles Exited	77	10	72	39	11	55	41	1008	42	58	727	61	2201
Hourly Exit Rate	77	10	72	39	11	55	41	1008	42	58	727	61	2201
Input Volume	80	10	70	40	10	60	40	1000	40	60	730	60	2200
% of Volume	96	98	102	98	107	92	103	101	106	97	100	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.9	0.2	0.2	0.1	0.1	0.1	0	0	0	3.6	0.1	3.4	0.2
Total Del/Veh (s)	8.5	13	3.2	11.6	11.6	3.9	3.1	1.8	1.9	2.9	0.4	1.5	1.9
Vehicles Exited	11	10	11	20	11	12	9	550	20	9	350	11	1024
Hourly Exit Rate	11	10	11	20	11	12	9	550	20	9	350	11	1024
Input Volume	10	10	10	20	10	10	10	540	20	10	350	10	1013
% of Volume	107	98	107	99	107	117	88	102	99	88	100	107	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.2	0.1	0.1	4	0.2	0.1	3.1	0.2	2.8	0	0	0	0.3
Total Del/Veh (s)	23.8	23.2	4.3	19.6	24.6	7.2	3.7	0.8	1.7	6.1	2.3	2.2	2.4
Vehicles Exited	20	11	9	10	9	23	9	697	11	19	538	23	1379
Hourly Exit Rate	20	11	9	10	9	23	9	697	11	19	538	23	1379
Input Volume	20	10	10	10	10	20	10	690	10	20	531	20	1364
% of Volume	99	107	88	98	88	114	88	101	107	94	101	114	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4	0.2	0.2	4	0.2	0.1	3	0.3	2.9	0	0	0	0.2
Total Del/Veh (s)	33	29.4	8.4	24	30.9	5.8	7	0.6	0.3	7	4.3	2	3.6
Vehicles Exited	19	9	22	8	8	12	19	664	19	36	844	41	1701
Hourly Exit Rate	19	9	22	8	8	12	19	664	19	36	844	41	1701
Input Volume	20	10	20	10	10	10	20	680	20	40	841	40	1722
% of Volume	94	88	109	78	78	117	94	98	94	91	100	103	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	2	0.2	0.3	0.3	0	0	0.2
Total Del/Veh (s)	14.8	4.8	4.8	2.3	13.3	4.5	5.1
Vehicles Exited	40	46	696	41	36	685	1544
Hourly Exit Rate	40	46	696	41	36	685	1544
Input Volume	40	40	690	40	40	680	1529
% of Volume	101	116	101	103	91	101	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Davis & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	4	0.2	0.2	0	0	0	0.2
Total Del/Veh (s)	5.7	7.1	2.9	5.8	6.7	2.9	2	0.3	0.2	2.8	0.7	0.8	1.5

Vehicles Exited	8	9	12	10	10	11	9	112	10	8	98	11	308
Hourly Exit Rate	8	9	12	10	10	11	9	112	10	8	98	11	308
Input Volume	10	10	10	10	10	10	10	110	10	10	100	10	312
% of Volume	78	88	117	98	98	107	88	102	98	78	98	107	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.3	0.3	0.3	0	0	0	3.3	0.2	0.2	0.2
Total Del/Veh (s)	13.6	10.5	3.6	12.9	13.9	8.3	24.5	10.6	8	19.6	8.7	4.2	10.6
Vehicles Exited	98	10	23	201	10	30	18	451	31	38	281	89	1280
Hourly Exit Rate	98	10	23	201	10	30	18	451	31	38	281	89	1280
Input Volume	100	10	20	210	10	30	20	431	30	40	280	90	1270
% of Volume	98	95	114	96	98	101	89	105	104	96	100	99	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.2	1.1	0	0	0.1
Total Del/Veh (s)	17.3	3.5	1.1	1.3	4.2	2.2	2.3
Vehicles Exited	40	44	523	41	37	594	1279
Hourly Exit Rate	40	44	523	41	37	594	1279
Input Volume	40	40	520	40	40	591	1270
% of Volume	101	111	101	103	93	100	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0.1	0.1	3.7	0.7	1.6
Total Del/Veh (s)	8.4	0.3	4.2	1.6	0.2	2.4	1.2	3.3
Vehicles Exited	40	1	232	21	30	245	24	593
Hourly Exit Rate	40	1	232	21	30	245	24	593
Input Volume	40	1	230	20	30	250	20	591

% of Volume	101	100	101	104	101	98	119	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

40: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	917	917
Hourly Exit Rate	917	917
Input Volume	910	910
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	530	530
Hourly Exit Rate	530	530
Input Volume	540	540
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	720	720
Hourly Exit Rate	720	720
Input Volume	710	710
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.8	10.8
Vehicles Exited	881	881
Hourly Exit Rate	881	881
Input Volume	880	880
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.6	5.6
Vehicles Exited	1324	1324
Hourly Exit Rate	1324	1324
Input Volume	1330	1330
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	203	203
Hourly Exit Rate	203	203
Input Volume	200	200
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	318	318
Hourly Exit Rate	318	318
Input Volume	320	320
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	404	404
Hourly Exit Rate	404	404
Input Volume	410	410
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	415	415
Hourly Exit Rate	415	415
Input Volume	420	420
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7

Vehicles Exited	201	201
Hourly Exit Rate	201	201
Input Volume	210	210
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	108	108
Hourly Exit Rate	108	108
Input Volume	109	109
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.5	6.5
Vehicles Exited	1091	1091
Hourly Exit Rate	1091	1091
Input Volume	1110	1110
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.4	6.4
Vehicles Exited	950	950
Hourly Exit Rate	950	950
Input Volume	960	960

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	1284	1284
Hourly Exit Rate	1284	1284
Input Volume	1270	1270
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	1.8	0.8	1.3
Vehicles Exited	886	841	1727
Hourly Exit Rate	886	841	1727
Input Volume	899	830	1730
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1240	1240
Hourly Exit Rate	1240	1240
Input Volume	1240	1240
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

56: Performance by movement

Movement	NET	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	1	0.8
Vehicles Exited	1050	433	1483
Hourly Exit Rate	1050	433	1483
Input Volume	1060	430	1490
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

57: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.7	1	1.5
Vehicles Exited	1055	530	1585
Hourly Exit Rate	1055	530	1585
Input Volume	1060	530	1590
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

58: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	0.9	0.8
Vehicles Exited	907	333	1240
Hourly Exit Rate	907	333	1240
Input Volume	900	340	1240
% of Volume	101	98	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	96	96
Hourly Exit Rate	96	96
Input Volume	100	100
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	555	555
Hourly Exit Rate	555	555
Input Volume	551	551
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.9	6.9
Vehicles Exited	794	794
Hourly Exit Rate	794	794
Input Volume	790	790
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

62: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.5	4.4	3

Vehicles Exited	930	305	1235
Hourly Exit Rate	930	305	1235
Input Volume	936	300	1236
% of Volume	99	102	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

63: Performance by movement

Movement	EBT	SWR	All
Denied Del/Veh (s)	0	0.1	0
Total Del/Veh (s)	7.9	1.3	4.2
Vehicles Exited	1488	1944	3432
Hourly Exit Rate	1488	1944	3432
Input Volume	1491	1940	3431
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.4	7.4
Vehicles Exited	709	709
Hourly Exit Rate	709	709
Input Volume	710	710
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	601	601
Hourly Exit Rate	601	601
Input Volume	610	610

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	341	341
Hourly Exit Rate	341	341
Input Volume	350	350
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	457	457
Hourly Exit Rate	457	457
Input Volume	450	450
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	212	212
Hourly Exit Rate	212	212
Input Volume	220	220
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	172	172
Hourly Exit Rate	172	172
Input Volume	169	169
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	322	322
Hourly Exit Rate	322	322
Input Volume	320	320
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	695	695
Hourly Exit Rate	695	695
Input Volume	700	700
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

72: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	1156	1156
Hourly Exit Rate	1156	1156
Input Volume	1160	1160
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.5	0	0.2
Total Del/Veh (s)	3.1	4.5	3.8
Vehicles Exited	587	604	1191
Hourly Exit Rate	587	604	1191
Input Volume	590	609	1199
% of Volume	100	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.3	0.1
Total Del/Veh (s)	1.3	0.4	0.8
Vehicles Exited	407	359	766
Hourly Exit Rate	407	359	766
Input Volume	411	360	771
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

75: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.4	2.2	3.3

Vehicles Exited	779	752	1531
Hourly Exit Rate	779	752	1531
Input Volume	791	760	1551
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	1061	1061
Hourly Exit Rate	1061	1061
Input Volume	1050	1050
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

77: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.8	1.2	1.4	1.8
Vehicles Exited	899	6	157	1062
Hourly Exit Rate	899	6	157	1062
Input Volume	890	4	150	1044
% of Volume	101	141	105	102
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	53	53
Hourly Exit Rate	53	53
Input Volume	51	51

% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	66	66
Hourly Exit Rate	66	66
Input Volume	61	61
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	77	77
Hourly Exit Rate	77	77
Input Volume	80	80
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.8	1	1.2	1.6
Vehicles Exited	896	10	261	1167
Hourly Exit Rate	896	10	261	1167
Input Volume	900	8	260	1167
% of Volume	100	133	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	114	114
Hourly Exit Rate	114	114
Input Volume	110	110
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	612	612
Hourly Exit Rate	612	612
Input Volume	610	610
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.2	2.3	1.3
Vehicles Exited	929	154	1083
Hourly Exit Rate	929	154	1083
Input Volume	922	160	1082
% of Volume	101	96	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.7	0	0.5
Total Del/Veh (s)	1	1.3	1.1
Vehicles Exited	764	408	1172
Hourly Exit Rate	764	408	1172
Input Volume	770	400	1170
% of Volume	99	102	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.5	0	0.2
Total Del/Veh (s)	0.7	5.2	3.2
Vehicles Exited	604	753	1357
Hourly Exit Rate	604	753	1357
Input Volume	590	760	1350
% of Volume	102	99	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	604	604
Hourly Exit Rate	604	604
Input Volume	609	609
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4

Vehicles Exited	448	448
Hourly Exit Rate	448	448
Input Volume	449	449
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	546	546
Hourly Exit Rate	546	546
Input Volume	551	551
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.7	0	0.4
Total Del/Veh (s)	2.6	6.4	4.3
Vehicles Exited	758	607	1365
Hourly Exit Rate	758	607	1365
Input Volume	750	610	1359
% of Volume	101	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.3	5.2	4.2
Vehicles Exited	888	826	1714
Hourly Exit Rate	888	826	1714
Input Volume	900	830	1730

% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

92: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	6.4	2.8	4.6
Vehicles Exited	781	752	1533
Hourly Exit Rate	781	752	1533
Input Volume	791	760	1551
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	577	577
Hourly Exit Rate	577	577
Input Volume	580	580
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	256	256
Hourly Exit Rate	256	256
Input Volume	250	250
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	122	122
Hourly Exit Rate	122	122
Input Volume	120	120
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

96: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.4	7.4
Vehicles Exited	1752	1752
Hourly Exit Rate	1752	1752
Input Volume	1760	1760
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	242	242
Hourly Exit Rate	242	242
Input Volume	230	230
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	577	577
Hourly Exit Rate	577	577
Input Volume	570	570
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	211	211
Hourly Exit Rate	211	211
Input Volume	210	210
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

100: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	1054	1054
Hourly Exit Rate	1054	1054
Input Volume	1050	1050
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.4	1.4	1.4

Vehicles Exited	909	267	1176
Hourly Exit Rate	909	267	1176
Input Volume	900	271	1170
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	607	607
Hourly Exit Rate	607	607
Input Volume	610	610
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

103: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	1056	1056
Hourly Exit Rate	1056	1056
Input Volume	1040	1040
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	837	837
Hourly Exit Rate	837	837
Input Volume	840	840

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	777	777
Hourly Exit Rate	777	777
Input Volume	780	780
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	1068	1068
Hourly Exit Rate	1068	1068
Input Volume	1050	1050
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	562	562
Hourly Exit Rate	562	562
Input Volume	560	560
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	547	547
Hourly Exit Rate	547	547
Input Volume	560	560
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

109: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	917	917
Hourly Exit Rate	917	917
Input Volume	910	910
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.6	7.6
Vehicles Exited	1077	1077
Hourly Exit Rate	1077	1077
Input Volume	1079	1079
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	871	871
Hourly Exit Rate	871	871
Input Volume	870	870
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	518	518
Hourly Exit Rate	518	518
Input Volume	510	510
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	430	430
Hourly Exit Rate	430	430
Input Volume	440	440
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5

Vehicles Exited	579	579
Hourly Exit Rate	579	579
Input Volume	559	559
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	408	408
Hourly Exit Rate	408	408
Input Volume	400	400
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.1	6.1
Vehicles Exited	922	922
Hourly Exit Rate	922	922
Input Volume	950	950
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

117: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	0.8	0.6
Vehicles Exited	831	256	1087
Hourly Exit Rate	831	256	1087
Input Volume	821	250	1071

% of Volume	101	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

118: Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	1.2	1.4
Vehicles Exited	802	297	1099
Hourly Exit Rate	802	297	1099
Input Volume	790	300	1090
% of Volume	102	99	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	489	489
Hourly Exit Rate	489	489
Input Volume	501	501
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	429	429
Hourly Exit Rate	429	429
Input Volume	430	430
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

121: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	79	79
Hourly Exit Rate	79	79
Input Volume	80	80
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

122: NCC Performance by movement

Movement	WBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.4	0.6	1	1.2
Vehicles Exited	1054	36	1157	2247
Hourly Exit Rate	1054	36	1157	2247
Input Volume	1051	35	1160	2246
% of Volume	100	104	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	190	190
Hourly Exit Rate	190	190
Input Volume	190	190
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

124: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	31	31
Hourly Exit Rate	31	31
Input Volume	31	31
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

125: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2	1.9	1.9
Vehicles Exited	970	431	1401
Hourly Exit Rate	970	431	1401
Input Volume	971	440	1411
% of Volume	100	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	1403	1403
Hourly Exit Rate	1403	1403
Input Volume	1410	1410
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

127: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.8	1.3	1.7

Vehicles Exited	969	229	1198
Hourly Exit Rate	969	229	1198
Input Volume	970	230	1200
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

128: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	725	725
Hourly Exit Rate	725	725
Input Volume	720	720
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

129: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1199	1199
Hourly Exit Rate	1199	1199
Input Volume	1200	1200
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	1101	1101
Hourly Exit Rate	1101	1101
Input Volume	1090	1090

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	SW	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	460	460
Hourly Exit Rate	460	460
Input Volume	460	460
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.2	2.4	3.3
Vehicles Exited	781	753	1534
Hourly Exit Rate	781	753	1534
Input Volume	791	760	1551
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.2	3	3.1
Vehicles Exited	520	432	952
Hourly Exit Rate	520	432	952
Input Volume	520	440	961
% of Volume	100	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

134: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	889	889
Hourly Exit Rate	889	889
Input Volume	899	899
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.4	6.4
Vehicles Exited	1542	1542
Hourly Exit Rate	1542	1542
Input Volume	1550	1550
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

136: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.2	0.3	3
Vehicles Exited	523	431	954
Hourly Exit Rate	523	431	954
Input Volume	520	440	961
% of Volume	101	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

137: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	0.9	0.9
Vehicles Exited	524	432	956
Hourly Exit Rate	524	432	956
Input Volume	520	440	961
% of Volume	101	98	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

138: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	27	27
Hourly Exit Rate	27	27
Input Volume	31	31
% of Volume	88	88
Denied Entry Before	0	0
Denied Entry After	0	0

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	664	664
Hourly Exit Rate	664	664
Input Volume	650	650
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

140: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.7	7.7

Vehicles Exited	548	548
Hourly Exit Rate	548	548
Input Volume	560	560
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

141: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	64	64
Hourly Exit Rate	64	64
Input Volume	60	60
% of Volume	107	107
Denied Entry Before	0	0
Denied Entry After	0	0

142: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	252	252
Hourly Exit Rate	252	252
Input Volume	250	250
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	478	478
Hourly Exit Rate	478	478
Input Volume	470	470

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	4	0.4	2.3
Vehicles Exited	669	596	1265
Hourly Exit Rate	669	596	1265
Input Volume	660	590	1251
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	145	145
Hourly Exit Rate	145	145
Input Volume	140	140
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

146: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	670	670
Hourly Exit Rate	670	670
Input Volume	660	660
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

147: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	1	1.2
Vehicles Exited	1092	311	1403
Hourly Exit Rate	1092	311	1403
Input Volume	1100	310	1410
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

148: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	121	121
Hourly Exit Rate	121	121
Input Volume	120	120
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

149: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	627	627
Hourly Exit Rate	627	627
Input Volume	620	620
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	121	121
Hourly Exit Rate	121	121
Input Volume	121	121
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

151: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	407	407
Hourly Exit Rate	407	407
Input Volume	411	411
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

152: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	0.4	0	0.2
Vehicles Exited	78	83	161
Hourly Exit Rate	78	83	161
Input Volume	80	80	159
% of Volume	98	104	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

153: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.4	2.5	3

Vehicles Exited	1140	843	1983
Hourly Exit Rate	1140	843	1983
Input Volume	1140	850	1990
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	6.6	1.6	4.2
Vehicles Exited	889	840	1729
Hourly Exit Rate	889	840	1729
Input Volume	899	830	1730
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	4.5	2.6
Vehicles Exited	1157	1055	2212
Hourly Exit Rate	1157	1055	2212
Input Volume	1160	1050	2210
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

156: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	3	1.9
Vehicles Exited	565	631	1196
Hourly Exit Rate	565	631	1196
Input Volume	560	630	1190

% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

157: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	252	252
Hourly Exit Rate	252	252
Input Volume	240	240
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

158: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.1	3.1	3.1
Vehicles Exited	523	431	954
Hourly Exit Rate	523	431	954
Input Volume	520	440	961
% of Volume	101	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

159: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	823	823
Hourly Exit Rate	823	823
Input Volume	830	830
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

164: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	39	39
Hourly Exit Rate	39	39
Input Volume	41	41
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

165: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	0.8	4.3	2.5
Vehicles Exited	886	821	1707
Hourly Exit Rate	886	821	1707
Input Volume	900	830	1730
% of Volume	98	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	31	31
Hourly Exit Rate	31	31
Input Volume	31	31
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

169: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	280	280
Hourly Exit Rate	280	280
Input Volume	280	280
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	41	41
Hourly Exit Rate	41	41
Input Volume	41	41
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	41	41
Hourly Exit Rate	41	41
Input Volume	41	41
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6

Vehicles Exited	69	69
Hourly Exit Rate	69	69
Input Volume	70	70
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	244	244
Hourly Exit Rate	244	244
Input Volume	240	240
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	78	78
Hourly Exit Rate	78	78
Input Volume	80	80
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

177: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	78	78
Hourly Exit Rate	78	78
Input Volume	80	80

% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

178: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	29	29
Hourly Exit Rate	29	29
Input Volume	31	31
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

179: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	753	753
Hourly Exit Rate	753	753
Input Volume	760	760
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	112	112
Hourly Exit Rate	112	112
Input Volume	110	110
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	110	110
Hourly Exit Rate	110	110
Input Volume	110	110
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	575	575
Hourly Exit Rate	575	575
Input Volume	561	561
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	64	64
Hourly Exit Rate	64	64
Input Volume	70	70
% of Volume	91	91
Denied Entry Before	0	0
Denied Entry After	0	0

185: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	632	632
Hourly Exit Rate	632	632
Input Volume	630	630
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

186: Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.8	2.2	1.9
Vehicles Exited	1090	493	1583
Hourly Exit Rate	1090	493	1583
Input Volume	1100	490	1590
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

187: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	1.5	1
Vehicles Exited	865	234	1099
Hourly Exit Rate	865	234	1099
Input Volume	860	230	1090
% of Volume	101	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

189: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1

Vehicles Exited	376	376
Hourly Exit Rate	376	376
Input Volume	380	380
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

190: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	1402	1402
Hourly Exit Rate	1402	1402
Input Volume	1410	1410
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

192: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.1	0.1	0.2	0.8
Vehicles Exited	866	1	375	1242
Hourly Exit Rate	866	1	375	1242
Input Volume	860	1	380	1240
% of Volume	101	133	99	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

193: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	376	376
Hourly Exit Rate	376	376
Input Volume	380	380

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

194: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	1585	1585
Hourly Exit Rate	1585	1585
Input Volume	1590	1590
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	1057	1057
Hourly Exit Rate	1057	1057
Input Volume	1040	1040
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	529	529
Hourly Exit Rate	529	529
Input Volume	530	530
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	1176	1176
Hourly Exit Rate	1176	1176
Input Volume	1170	1170
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

500: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.3	0	0.2
Total Del/Veh (s)	1.5	2.2	1.8
Vehicles Exited	888	626	1514
Hourly Exit Rate	888	626	1514
Input Volume	890	620	1511
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	34.7
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	24
Denied Entry Before	1
Denied Entry After	0

Queuing and Blocking Report
Baseline 9/3/2014

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	100	200	221	220	103	151	166	192	225	63	134	188	99	123
Average Queue (ft)	32	105	112	105	43	59	73	97	114	15	53	72	39	50
95th Queue (ft)	72	171	186	180	80	114	141	164	191	46	108	146	82	102
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	530				410	580				530	330		300	
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	L	T	T	TR
Maximum Queue (ft)	64	192	241	270	119	107	154	168	130	145	156	50	95	106	118	83	84	50	121	87	91	52
Average Queue (ft)	14	94	130	151	47	19	78	94	61	65	69	12	38	47	55	38	30	7	45	41	33	12
95th Queue (ft)	46	169	216	242	95	72	130	144	110	122	129	38	74	84	98	70	67	30	95	74	74	35
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923		3946	3946	3946
Upstream Blk Time (%)																						
Queuing Penalty (veh)																						
Storage Bay Dist (ft)	715				355	920	920	920				750	800						550			
Storage Blk Time (%)																						
Queuing Penalty (veh)																						

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	304	501	122	411	220	183	299	286	327	404	368
Average Queue (ft)	171	198	18	202	70	56	142	135	186	170	198

95th Queue (ft)	299	419	74	332	189	122	239	229	316	345	322
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				0			0				
Queuing Penalty (veh)				0			0				
Storage Bay Dist (ft)	250		90		160	185			290		
Storage Blk Time (%)	7	2	0	37			4		7	0	
Queuing Penalty (veh)	24	4	1	37			2		17	0	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	123	194	234	201
Average Queue (ft)	53	87	86	62
95th Queue (ft)	102	159	194	162
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	444	118	8	134
Average Queue (ft)	222	53	0	55
95th Queue (ft)	383	99	6	107
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		530		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB

Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	L	T	T	T	>
Maximum Queue (ft)	111	124	194	115	125	187	140	148	151	128	118	129	154	135	161	116	111
Average Queue (ft)	51	63	96	47	58	76	57	69	71	43	48	51	55	65	78	33	42
95th Queue (ft)	94	108	166	94	101	139	112	124	129	97	96	107	114	114	134	86	87
Link Distance (ft)			1111		1063	1063		737	737	737	737			1038	1038	1038	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300	300		300			700					300	550				650
Storage Blk Time (%)			0														
Queuing Penalty (veh)			0														

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	150	226	374	391	383	264	152	164	165	184	168	124	192	261	312	314	307	259	262	296	281	275	309
Average Queue (ft)	70	96	212	226	220	111	75	88	95	111	75	29	92	112	171	193	175	119	152	190	176	176	177
95th Queue (ft)	127	194	354	362	363	223	132	139	145	162	140	92	160	190	258	278	269	230	249	272	254	254	276
Link Distance (ft)			4930	4930	4930				3469	3469	3469				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)																							
Queuing Penalty (veh)																							
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)			2		2								0	0	2		5	1					
Queuing Penalty (veh)			5		6								0	0	6		14	3					

Intersection: 8: Coffee Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	123	139	152	101	111	64	208	58	63	90	61	117	116	103
Average Queue (ft)	50	74	58	32	53	12	99	18	11	30	16	55	38	34
95th Queue (ft)	105	123	115	75	96	41	175	46	38	69	44	99	88	75
Link Distance (ft)		860	860		880	880		892	892			952	952	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	500			500			600			600	650			650
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	196	263	350	290	186	154	100	192	185	147	185	223	210	173	98	180	148	199
Average Queue (ft)	72	128	192	153	55	67	42	110	102	49	77	134	99	75	43	98	44	91
95th Queue (ft)	162	216	293	250	144	121	85	166	160	106	168	200	172	145	85	158	107	161
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)			0															
Queuing Penalty (veh)			1															

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	169	305	315	213	229	164	177	197	158	350	131	143	109
Average Queue (ft)	77	160	168	122	134	68	84	109	58	194	52	56	30
95th Queue (ft)	141	253	268	194	204	128	150	182	124	323	113	115	74
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								0	0		1	8	0
Queuing Penalty (veh)								0	0		1	7	0

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	142	66	100	210	230	45	124	180	200	145	115	211	247
Average Queue (ft)	50	18	40	75	129	8	51	90	106	71	42	87	130
95th Queue (ft)	107	51	78	167	207	30	101	157	173	119	92	162	215
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		

Storage Blk Time (%)																	
Queuing Penalty (veh)																	

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	154	185	147	108	59	149	109	33	45	179	195	388	200	63	289	252	156
Average Queue (ft)	44	98	74	24	15	78	29	2	10	86	124	118	93	17	172	115	65
95th Queue (ft)	116	163	126	69	44	130	71	16	33	157	179	320	165	47	254	220	118
Link Distance (ft)		1374	1374	1374		1274	1274	1274			2052	2052	2052		580	580	
Upstream Blk Time (%)												0					
Queuing Penalty (veh)												0					
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)															0		
Queuing Penalty (veh)															0		

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	286	451	134	462	210	258	393	234	565	160
Average Queue (ft)	165	240	42	203	79	60	190	157	210	92
95th Queue (ft)	262	402	114	375	196	165	334	254	459	178
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			2	44	0	0	5	8	20	1
Queuing Penalty (veh)			7	66	0	0	3	29	80	3

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	62	95	91	91	85	48	78	16	4	48	18	20
Average Queue (ft)	18	36	45	31	33	12	29	1	0	10	1	1
95th Queue (ft)	49	79	77	71	69	36	63	8	3	33	9	10
Link Distance (ft)		1163			1019			1058	1058		414	414

Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300		300	300		300	300
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	229	226	218	72	81	85	105
Average Queue (ft)	115	116	108	22	23	35	49
95th Queue (ft)	187	192	183	57	61	73	83
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		300	400				150
Storage Blk Time (%)		0					0
Queuing Penalty (veh)		0					0

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	162	175	184	204	159	120	71	112	124	146	145	121	54	89	128	138	78	80	87	40	68	110	110	149
Average Queue (ft)	78	93	105	122	60	48	14	50	63	76	79	49	12	12	60	69	32	28	36	7	23	52	43	61
95th Queue (ft)	134	150	166	184	136	95	46	95	106	123	130	105	36	54	108	117	64	66	68	28	52	92	89	117
Link Distance (ft)			1066	1066	1066				1607	1607	1607	1607				1090	1090	1090				1218	1218	
Upstream Blk Time (%)																								
Queuing Penalty (veh)																								
Storage Bay Dist (ft)	800	800				1000	970	970					850	720	720				1000	520	520			720
Storage Blk Time (%)																								
Queuing Penalty (veh)																								

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	WB	SB	SB
Directions Served	L	TR	L	R
Maximum Queue (ft)	90	24	93	82

Average Queue (ft)	31	1	37	41
95th Queue (ft)	72	11	71	70
Link Distance (ft)		5348	826	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	300			300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Bentley & NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L	T	R
Maximum Queue (ft)	68	211	216	79	110	188	189	31	71	99	39	49	99	112
Average Queue (ft)	19	87	98	23	44	78	84	3	23	34	8	9	34	36
95th Queue (ft)	49	164	175	57	89	156	157	16	59	76	27	33	76	78
Link Distance (ft)		2767	2767			2373	2373			1462			1179	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	680			580	770			720	200		300	150		200
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	96	139	162	67	174	149	100	100	104	60	80
Average Queue (ft)	43	50	63	23	96	59	47	43	42	20	35
95th Queue (ft)	81	103	124	55	153	119	87	81	83	51	65
Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)									1	0	0
Queuing Penalty (veh)									1	0	0

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	109	261	229	134	349	259	319	315	135	445	364
Average Queue (ft)	65	116	121	20	159	107	188	190	31	253	208
95th Queue (ft)	120	211	200	80	289	204	284	283	90	390	328
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	30	35	1		2			0			
Queuing Penalty (veh)	111	98	1		0			2			

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	110	152	181	130	138	159	82	136	205	110	143	176	134
Average Queue (ft)	40	69	75	58	65	78	27	61	81	67	55	72	39
95th Queue (ft)	82	126	143	108	115	140	65	106	156	117	105	139	86
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)				0					23	4	1	4	0
Queuing Penalty (veh)				0					75	13	3	6	0

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	163	125	135	109	77	54	103	104	290	298	89	229	276	305
Average Queue (ft)	77	59	61	33	25	10	35	39	160	166	32	110	142	179
95th Queue (ft)	145	107	110	79	60	35	76	84	255	263	70	198	243	275
Link Distance (ft)		5602			2173	2173			1385	1385			2186	2186
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	225		225	225			225	400			300	400		
Storage Blk Time (%)	0								0	0				
Queuing Penalty (veh)	0								0	0				

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	41	60	40	78	74	81	151	128	78	137	103	53
Average Queue (ft)	7	13	11	26	21	17	64	37	19	57	29	7
95th Queue (ft)	26	40	28	63	56	52	122	93	54	110	75	33
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	119	185	148	86	97	130	55	128	110	125	92	84	150	182	119	115
Average Queue (ft)	49	89	70	32	43	49	7	59	37	55	41	26	69	88	32	56
95th Queue (ft)	101	144	126	71	81	100	32	106	85	101	75	63	127	149	87	92
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	600				700	600				600
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 25: Roselle & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	73	36	211	69	87	115	133	150	99	84	84	129	107	28
Average Queue (ft)	19	4	108	13	33	45	47	51	14	21	23	55	45	2
95th Queue (ft)	51	21	186	42	68	93	103	116	59	58	59	104	93	15
Link Distance (ft)			1221		1142	1142		671	671			1058	1058	
Upstream Blk Time (%)														
Queuing Penalty (veh)														

Storage Bay Dist (ft)	500	500		500			400			400	550			550		
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 27: NCC & Albers Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T	R	L	T	R
Maximum Queue (ft)	236	242	93	101	46	117	126	104	106	89	39	198	170	51	188	6
Average Queue (ft)	105	111	32	36	6	41	59	34	41	29	7	81	66	12	67	0
95th Queue (ft)	191	191	77	80	27	91	101	76	84	68	27	154	131	37	154	6
Link Distance (ft)			1128	1128				2928	2928			2741			1385	1385
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	920	920			580	720	720			580	200		300	200		
Storage Blk Time (%)												0			0	
Queuing Penalty (veh)												1			0	

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	LT	TR	LT	TR
Maximum Queue (ft)	74	47	64	47	26	44	81
Average Queue (ft)	12	2	17	7	2	4	18
95th Queue (ft)	50	21	50	32	15	23	56
Link Distance (ft)	2808	2808	3975	439	439	853	853
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	TR	LT	R	LTR
Maximum Queue (ft)	140	62	99	36	71	67	78
Average Queue (ft)	57	2	35	2	19	9	22
95th Queue (ft)	109	29	77	20	54	38	61

Link Distance (ft)	2200	2200	1153	1153	3975	3975	267
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	80	99	54	72	106	105	120	129	43	67	121	87	100	40
Average Queue (ft)	25	38	13	19	45	34	48	52	6	18	56	29	33	6
95th Queue (ft)	60	73	41	50	86	82	97	106	27	50	100	70	79	25
Link Distance (ft)		882		1224		1038	1038	1038			2422	2422	2422	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	300		300		300				300	300				300
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B153
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R	T
Maximum Queue (ft)	133	93	93	96	86	225	240	60	51	83	172	191	63	3
Average Queue (ft)	53	42	29	33	29	94	102	14	9	36	62	80	17	0
95th Queue (ft)	101	76	67	73	68	172	193	43	35	68	129	147	48	0
Link Distance (ft)		430		638		834	834				757	757	757	737
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	300		300		300			400	450	450				
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	L	T	T

Maximum Queue (ft)	47	55	57	52	30	31	6	2
Average Queue (ft)	9	16	15	13	3	3	0	0
95th Queue (ft)	33	43	42	37	17	17	6	2
Link Distance (ft)		1273		1993			1334	1334
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	300		300		300	300		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	R
Maximum Queue (ft)	67	67	37	73	22	2	0	38	0	3
Average Queue (ft)	17	16	8	25	3	0	0	4	0	0
95th Queue (ft)	49	48	29	58	14	1	0	19	0	3
Link Distance (ft)		732		1076		1259	1259		892	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	300		300		300			300		300
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	R
Maximum Queue (ft)	69	69	52	72	57	6	2	64	6	6
Average Queue (ft)	19	24	9	20	11	0	0	15	0	0
95th Queue (ft)	54	55	36	55	38	6	2	43	5	5
Link Distance (ft)		636		496		414	414		1357	1357
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	300		300		300			300		
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	80	76	159	133	76	94	122
Average Queue (ft)	29	29	60	43	27	19	48
95th Queue (ft)	64	64	127	102	60	63	102
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Davis & Claribel Realigned (N)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	71	67	28	21
Average Queue (ft)	23	23	1	1
95th Queue (ft)	55	55	13	12
Link Distance (ft)	662	702		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			50	50
Storage Blk Time (%)			0	0
Queuing Penalty (veh)			0	0

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	116	60	182	55	122	151	82	90	143
Average Queue (ft)	49	18	89	14	53	69	28	32	59
95th Queue (ft)	93	51	150	41	106	125	64	68	114
Link Distance (ft)		1110	417		1218	1218		1028	1028
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)									

Queuing Penalty (veh)

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	L
Maximum Queue (ft)	83	59	11	20	28	58
Average Queue (ft)	28	21	1	1	1	15
95th Queue (ft)	64	46	10	10	11	44
Link Distance (ft)	437		1878			
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		300		300	890	890
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (ft)	71	97	7	78
Average Queue (ft)	27	56	0	14
95th Queue (ft)	58	86	5	51
Link Distance (ft)	853	853	795	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 56:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)

Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 57:

Movement	B299	B299
Directions Served	T	
Maximum Queue (ft)	46	9
Average Queue (ft)	2	1
95th Queue (ft)	25	9
Link Distance (ft)	377	377
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 58:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 62: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)

95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 63:

Movement	EB	EB
Directions Served	T	T
Maximum Queue (ft)	248	249
Average Queue (ft)	9	9
95th Queue (ft)	253	254
Link Distance (ft)	2590	2590
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 77:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 81:

Movement

Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 84: NCC SPUI

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 90: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	83
Average Queue (ft)	4
95th Queue (ft)	72
Link Distance (ft)	586
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 117: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 118:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)

Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 122: NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 125: NCC SPUI & NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 127:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)

Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 147:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 186:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 187:

Movement
Directions Served
Maximum Queue (ft)

Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 192:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary
Network wide Queuing Penalty: 630

SimTraffic Performance Report
2022 Alternative 2B AM Peak Hour
9/3/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.4	0.1	1.3	0	0	0	2	0.4	0.6	2.4	0.2	0.2	0.3
Total Del/Veh (s)	33.9	22.8	7.3	37	20.8	9.4	29.6	20.9	8.2	32.3	31.6	14.5	22.7
Vehicles Exited	40	640	112	173	953	56	181	62	23	18	78	53	2389
Hourly Exit Rate	40	640	112	173	953	56	181	62	23	18	78	53	2389
Input Volume	40	640	110	170	950	50	180	60	20	20	80	50	2370
% of Volume	101	100	102	102	100	112	101	103	114	89	97	106	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	36.3	22.1	15.6	28.8	8	3.3	22.1	17.4	2.3	26.1	22.5	7.5	13.3
Vehicles Exited	29	428	227	353	2042	22	89	73	122	27	101	54	3567
Hourly Exit Rate	29	428	227	353	2042	22	89	73	122	27	101	54	3567
Input Volume	30	432	220	360	2020	20	90	70	120	30	100	50	3541
% of Volume	97	99	103	98	101	109	99	104	102	91	101	108	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.3	0.3	0	0	0	0	0	0	0.2	0.1	0.1	0.1
Total Del/Veh (s)	46.5	20.4	11.3	57.9	32.1	10.5	48.5	32.1	18.6	51.6	31.2	25.1	30.2
Vehicles Exited	125	148	42	9	415	129	20	304	11	72	433	220	1928
Hourly Exit Rate	125	148	42	9	415	129	20	304	11	72	433	220	1928
Input Volume	130	150	40	10	420	130	20	300	10	70	440	220	1941
% of Volume	96	99	106	88	99	99	99	101	107	102	98	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	16	5.6	7.8	0.2	12.3	10.7
Vehicles Exited	226	11	325	94	483	1139
Hourly Exit Rate	226	11	325	94	483	1139
Input Volume	230	10	320	90	492	1142
% of Volume	98	107	102	105	98	100
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	0.7	0.7	0	0.5
Total Del/Veh (s)	10.2	4	15.5	4.9	4	8.1
Vehicles Exited	225	10	226	549	93	1103
Hourly Exit Rate	225	10	226	549	93	1103
Input Volume	223	10	230	560	90	1113
% of Volume	101	98	98	98	104	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 Performance by movement

Movement	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	16.4	18.5	18.8	18.3	18.9	12.4	4.6	17.2	13.4	7.5	14.1
Vehicles Exited	49	112	226	212	94	288	93	38	491	213	1816
Hourly Exit Rate	49	112	226	212	94	288	93	38	491	213	1816
Input Volume	50	110	230	210	90	302	90	40	501	210	1831
% of Volume	98	102	98	101	105	95	104	96	98	102	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.1	0.4	0.1	0.2	0.3	0.1	0.1	2.8	0.1	0.2	0.2
Total Del/Veh (s)	45.2	28.9	6.7	45.8	34	11.1	47.9	28.4	7.2	41	26.9	12.5	29.5
Vehicles Exited	257	598	185	213	965	283	197	666	118	99	570	133	4284
Hourly Exit Rate	257	598	185	213	965	283	197	666	118	99	570	133	4284
Input Volume	260	600	180	210	960	280	190	670	120	100	560	130	4259
% of Volume	99	100	103	102	101	101	104	99	98	99	102	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

8: Coffee Rd Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	25.3	0	12.1	20	0.1	24.5	19.5	4.9	2.4	26.7	15.7	10.5	13.7
Vehicles Exited	38	3	68	264	10	20	318	198	186	18	271	270	1664
Hourly Exit Rate	38	3	68	264	10	20	318	198	186	18	271	270	1664
Input Volume	40	3	70	270	8	20	320	191	190	20	271	270	1673
% of Volume	96	100	97	98	121	99	99	104	98	89	100	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.9	0.1	2.9	1	0.1	0.1	2.8	0.1	0.1	3.2	0.1	3	1
Total Del/Veh (s)	36.5	21	6.8	37.1	27.7	10.7	30.6	14.7	6.3	40.5	31.2	9.1	23.5
Vehicles Exited	129	362	218	79	848	63	380	371	60	27	400	218	3155
Hourly Exit Rate	129	362	218	79	848	63	380	371	60	27	400	218	3155
Input Volume	130	370	220	80	850	60	380	370	60	30	400	210	3160
% of Volume	99	98	99	98	100	105	100	100	100	91	100	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.5	0.1	0.1	0.3	0.2	0.1	1.6	0.2	0.1	1.7	0.3	1.6	0.4
Total Del/Veh (s)	49.6	13.5	6.1	40	12.3	9.8	42	30.2	31.4	42	36.5	7.8	21.7

Vehicles Exited	27	294	50	202	592	43	116	50	93	46	90	84	1687
Hourly Exit Rate	27	294	50	202	592	43	116	50	93	46	90	84	1687
Input Volume	30	300	50	200	590	40	120	50	100	50	90	80	1700
% of Volume	91	98	100	101	100	108	97	100	93	92	100	105	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.3	0.2	0.3	0.2	3.3	0	0	0	0.2	0.1	0.1	0.4
Total Del/Veh (s)	22.4	37.3	6.8	23.6	39.1	3.6	34.5	16.9	6.3	34	19.6	14	18.3
Vehicles Exited	78	22	71	379	11	51	31	243	232	41	529	37	1725
Hourly Exit Rate	78	22	71	379	11	51	31	243	232	41	529	37	1725
Input Volume	80	20	70	390	10	50	30	241	230	40	520	40	1721
% of Volume	97	109	101	97	107	102	104	101	101	103	102	93	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	3.4	3.5	0.1	3.8	0.3	0.1	0.1	2.7	0.4	2.9	0.8
Total Del/Veh (s)	53.4	22.4	2	38.2	34.3	3.1	32.3	8.6	2.6	44.2	30.3	7.5	24.1
Vehicles Exited	159	105	198	9	212	11	585	363	20	8	605	300	2575
Hourly Exit Rate	159	105	198	9	212	11	585	363	20	8	605	300	2575
Input Volume	160	110	200	10	210	10	570	370	20	10	610	290	2570
% of Volume	100	95	99	88	101	107	103	98	99	78	99	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.4	0.4	0.5	3.7	0.4	0.4	2.1	0.8	2.1	0.8
Total Del/Veh (s)	40.7	21.5	13.1	59.5	42.7	20.1	29.8	35.1	25.3	33.1	31.8	8	30.3
Vehicles Exited	123	239	22	20	357	179	54	192	43	160	128	152	1669
Hourly Exit Rate	123	239	22	20	357	179	54	192	43	160	128	152	1669
Input Volume	120	240	20	20	350	180	50	190	40	160	130	150	1650

% of Volume	102	99	109	99	102	99	108	101	108	100	98	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.6	3.8	3.9	0.4	3.9	0	0	0	0	0	0	0.9
Total Del/Veh (s)	12.9	12.3	5.3	10.7	13.6	2.1	5.2	2.6	1.2	2.6	0.6	0.1	3.8
Vehicles Exited	29	50	147	40	50	31	20	265	21	19	373	11	1056
Hourly Exit Rate	29	50	147	40	50	31	20	265	21	19	373	11	1056
Input Volume	30	50	140	40	50	30	20	270	20	20	370	10	1051
% of Volume	97	100	105	101	100	104	99	98	104	94	101	107	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.6	3.7	0.5
Total Del/Veh (s)	11	5.2	15.3	3.8	14.7	4.4	7.8
Vehicles Exited	254	137	209	489	79	180	1348
Hourly Exit Rate	254	137	209	489	79	180	1348
Input Volume	250	140	210	490	80	180	1350
% of Volume	101	98	100	100	98	100	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	23.5	16.4	3	25.9	19.2	3.7	26.4	17.3	2.3	32.5	29.8	9.3	17.2
Vehicles Exited	195	722	152	100	531	30	129	192	86	20	184	311	2652
Hourly Exit Rate	195	722	152	100	531	30	129	192	86	20	184	311	2652
Input Volume	200	730	150	100	540	30	130	190	80	20	180	310	2662
% of Volume	98	99	102	100	98	101	99	101	107	99	102	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	1.6	0.3	0.2	0.3	0.4	3.9	1.2
Total Del/Veh (s)	2	1	3	1.7	6.3	3.6	2.8
Vehicles Exited	69	130	177	41	58	124	599
Hourly Exit Rate	69	130	177	41	58	124	599
Input Volume	70	130	170	40	60	120	590
% of Volume	98	100	104	103	97	103	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

18: Bentley & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	4	0.4	4	4.1	0.3	3.9	0.3
Total Del/Veh (s)	25.4	11.3	3.4	34.2	18.7	3.8	25.2	14	4.6	31.5	21.5	5.7	15.6
Vehicles Exited	103	671	65	10	562	12	81	51	11	9	83	34	1692
Hourly Exit Rate	103	671	65	10	562	12	81	51	11	9	83	34	1692
Input Volume	110	660	60	10	560	10	80	50	10	10	80	30	1671
% of Volume	94	102	108	98	100	117	101	102	107	88	103	114	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.3	0.3	0.3	3.8	0.4	0.4	2	0.5	2	0.8
Total Del/Veh (s)	20.5	9.8	4.5	21.6	11.3	4.8	14.9	11.9	4.4	16.9	11.7	4.7	11
Vehicles Exited	67	315	51	37	199	73	93	62	23	115	58	146	1239
Hourly Exit Rate	67	315	51	37	199	73	93	62	23	115	58	146	1239
Input Volume	70	320	50	40	190	70	90	60	20	110	60	140	1220
% of Volume	95	99	102	93	105	104	104	103	114	105	97	104	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.4	0.4	0.3	0.1	0.1	1.8	0.7	1.8	0.2	0.1	0.2	0.4
Total Del/Veh (s)	61.7	37.2	26.3	47	30.7	9	35.7	36.2	8.2	49.6	41.8	38.8	35
Vehicles Exited	69	299	71	156	221	286	100	324	134	296	422	22	2400
Hourly Exit Rate	69	299	71	156	221	286	100	324	134	296	422	22	2400
Input Volume	70	300	70	160	220	290	100	320	130	300	420	20	2401
% of Volume	98	100	101	98	100	99	100	101	103	99	100	109	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.8	0.1	0.2	0.3	0.1	0.1	2	0.6	1.9	0.3	0.3	0.2	0.6
Total Del/Veh (s)	34.8	20.4	12.4	31.3	14.7	8.2	29.9	20.5	6.6	33.3	29.2	9	20.7
Vehicles Exited	47	369	155	152	384	42	260	115	75	31	155	88	1873
Hourly Exit Rate	47	369	155	152	384	42	260	115	75	31	155	88	1873
Input Volume	50	360	150	150	380	40	260	110	80	30	150	80	1839
% of Volume	94	102	104	102	101	106	100	105	93	104	104	110	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	3.5	0.2	3.5	0	0	0	2.7	0.2	0.3	0.5
Total Del/Veh (s)	33	34.4	9.3	31.4	31.7	10.9	36.3	23.1	7.1	36.3	20.2	14.6	22.6
Vehicles Exited	69	28	54	60	147	137	51	840	43	95	743	80	2347
Hourly Exit Rate	69	28	54	60	147	137	51	840	43	95	743	80	2347
Input Volume	70	30	50	60	150	140	50	831	40	100	740	80	2340
% of Volume	98	94	108	100	98	98	102	101	108	95	100	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	4.1	2.4	0.2	0.2	3.4	0.1	0.2	3.2	0.1	3	0.5
Total Del/Veh (s)	19.5	21.4	3.6	18	16.9	3.3	18.8	5.5	2.1	17.5	6.5	3.5	6.8

Vehicles Exited	20	11	24	32	10	10	20	406	80	11	531	30	1185
Hourly Exit Rate	20	11	24	32	10	10	20	406	80	11	531	30	1185
Input Volume	20	10	20	30	10	10	20	410	80	10	520	30	1172
% of Volume	99	107	119	108	98	98	99	99	100	107	102	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0		0	0	0	0	0	0	0	0
Total Del/Veh (s)	17.7	0.2	18.1	16.9		19	21.3	5.2	4.3	23.6	8	6.4	8
Vehicles Exited	55	1	29	124	0	22	30	428	362	28	601	351	2031
Hourly Exit Rate	55	1	29	124	0	22	30	428	362	28	601	351	2031
Input Volume	60	1	30	120	0	20	30	420	360	30	601	350	2022
% of Volume	92	133	97	103		109	101	102	100	94	100	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

25: Roselle & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	15.1	0	12.9	16.8	16.3	16.9	5.9	3.5	20.7	10.6	3.9	10.4
Vehicles Exited	9	1	85	125	40	153	259	183	38	470	52	1415
Hourly Exit Rate	9	1	85	125	40	153	259	183	38	470	52	1415
Input Volume	10	1	90	130	40	150	260	190	40	461	50	1422
% of Volume	88	100	95	96	101	102	99	96	96	102	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

26: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	697	697
Hourly Exit Rate	697	697
Input Volume	700	700

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

27: NCC & Albers Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.4	0.4	0.4	0	0	0	0.1
Total Del/Veh (s)	24.7	15.2	3.3	29.6	23.6	7.5	36.5	20.2	6.1	40.7	26.7	10.2	19.7
Vehicles Exited	618	44	29	168	81	10	9	310	189	7	352	496	2313
Hourly Exit Rate	618	44	29	168	81	10	9	310	189	7	352	496	2313
Input Volume	610	42	30	170	80	10	10	300	180	10	350	490	2282
% of Volume	101	106	97	99	101	98	88	103	105	68	101	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & SMITH Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0.3	0.2	4	0.4
Total Del/Veh (s)	10.1	4.4	1.8	12.8	7.6	2.6	8.3	9.8	3	8.1	11.1	3.2	6.5
Vehicles Exited	72	156	11	9	191	11	9	11	12	9	12	60	563
Hourly Exit Rate	72	156	11	9	191	11	9	11	12	9	12	60	563
Input Volume	70	150	10	10	190	10	10	10	10	10	10	60	552
% of Volume	102	104	107	88	100	107	88	107	117	88	117	100	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.2	0.2	0	0	0	0	0	0.1
Total Del/Veh (s)	8.2	4.2	3.5	7.7	1	0.1	2.5	5.5
Vehicles Exited	187	76	134	183	18	1	156	755
Hourly Exit Rate	187	76	134	183	18	1	156	755
Input Volume	190	70	140	180	20	1	150	752
% of Volume	98	108	96	102	89	80	104	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.2	0.1	0.2	4.2	0.1	0.2	0	0	0	1.9	0.1	1.6	0.2
Total Del/Veh (s)	17.1	13.7	3.8	15.7	15.9	4	15	4.2	3	17.1	5.5	3	5.9
Vehicles Exited	21	8	20	8	8	11	76	461	10	8	715	11	1357
Hourly Exit Rate	21	8	20	8	8	11	76	461	10	8	715	11	1357
Input Volume	20	10	20	10	10	10	80	470	10	10	720	10	1383
% of Volume	104	78	99	78	78	107	95	98	98	78	99	107	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.2	4.1	0.2	0.2	3.3	0.2	3.3	0	0	0	0.3
Total Del/Veh (s)	17.6	18	5.5	17.8	13.2	4.1	15.7	4.3	1.5	16	5	1.3	5.7
Vehicles Exited	20	11	21	32	11	37	28	416	21	30	757	40	1424
Hourly Exit Rate	20	11	21	32	11	37	28	416	21	30	757	40	1424
Input Volume	20	10	20	30	10	40	30	420	20	30	770	40	1441
% of Volume	99	107	104	108	107	93	94	99	104	101	98	101	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.8	0.2	0.1	0.1	0.1	0.1	0.1	0	0	3	0.2	3.3	0.2
Total Del/Veh (s)	9.6	11.6	3.4	11.3	9.8	2.5	4.9	1.7	1.8	1.5	0.6	1.5	1.5
Vehicles Exited	8	9	11	18	10	11	9	236	12	9	529	10	872
Hourly Exit Rate	8	9	11	18	10	11	9	236	12	9	529	10	872
Input Volume	10	10	10	20	10	10	10	231	10	10	530	10	874
% of Volume	78	88	107	89	98	107	88	102	117	88	100	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4	0.1	0.2	3.9	0.2	0.2	3.1	0.3	3	0	0	0	0.3
Total Del/Veh (s)	28.3	19.5	5.4	17.3	22.2	6.8	3.4	0.8	1.9	7	2.6	2.3	2.6
Vehicles Exited	18	10	11	9	10	22	10	659	13	17	569	19	1367
Hourly Exit Rate	18	10	11	9	10	22	10	659	13	17	569	19	1367
Input Volume	20	10	10	10	10	20	10	660	10	20	571	20	1373
% of Volume	89	98	107	88	98	109	98	100	127	84	100	94	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.1	0.3	4.1	0.2	0.2	3	0.4	2.9	0	0	0	0.3
Total Del/Veh (s)	34.5	21.9	6.1	21.7	28.4	8.2	5.3	0.8	0.4	6.6	2.8	1.5	3.2
Vehicles Exited	33	10	29	20	9	24	10	764	10	10	736	11	1666
Hourly Exit Rate	33	10	29	20	9	24	10	764	10	10	736	11	1666
Input Volume	30	10	30	20	10	20	10	760	10	10	730	10	1652
% of Volume	111	98	97	99	88	119	98	100	98	98	101	107	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	1.6	0.2	0.2	0.2	0	0	0.1
Total Del/Veh (s)	12	4.9	4.1	2	13.4	5.3	5
Vehicles Exited	19	100	495	19	18	659	1310
Hourly Exit Rate	19	100	495	19	18	659	1310
Input Volume	20	100	500	20	20	660	1320
% of Volume	94	100	99	94	89	100	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Davis & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	3.9	0.2	0.2	0	0	0	0.2
Total Del/Veh (s)	5.3	6.4	2.9	4.7	6.3	2.8	2	0.3	0.1	2.5	0.7	0.5	1.6

Vehicles Exited	9	11	12	9	11	11	8	78	10	9	71	12	251
Hourly Exit Rate	9	11	12	9	11	11	8	78	10	9	71	12	251
Input Volume	10	10	10	10	10	10	10	80	10	10	70	10	253
% of Volume	88	107	117	88	107	107	78	97	98	88	101	117	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.2	0.1	0.1	0	0	0	3.2	0.2	0.3	0.2
Total Del/Veh (s)	12.2	9.5	4.1	10.8	11.1	5.4	14.9	7.5	5.2	14.2	6.2	3.5	7.2
Vehicles Exited	56	13	30	75	10	12	9	310	99	19	407	72	1112
Hourly Exit Rate	56	13	30	75	10	12	9	310	99	19	407	72	1112
Input Volume	60	12	30	80	10	10	10	310	100	20	400	70	1113
% of Volume	93	111	101	93	98	117	88	100	99	94	102	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.1	1.1	0	0	0.1
Total Del/Veh (s)	11.1	3.2	0.7	1.2	3.3	1.9	1.9
Vehicles Exited	38	41	366	38	41	394	918
Hourly Exit Rate	38	41	366	38	41	394	918
Input Volume	40	40	360	40	40	390	910
% of Volume	96	103	102	96	103	101	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.7	8.7
Vehicles Exited	652	652
Hourly Exit Rate	652	652
Input Volume	660	660

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0
Total Del/Veh (s)	1.8	7.1	4.3	1.8	5.1	1.6	2.9	3.8	2.3	3	3.5	2.5	5.3
Vehicles Exited	10	156	12	8	191	13	8	10	11	8	11	11	449
Hourly Exit Rate	10	156	12	8	191	13	8	10	11	8	11	11	449
Input Volume	10	150	10	10	191	10	10	10	10	10	10	10	444
% of Volume	98	104	117	78	100	127	78	98	107	78	107	107	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	473	473
Hourly Exit Rate	473	473
Input Volume	470	470
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.1	6.1
Vehicles Exited	563	563
Hourly Exit Rate	563	563
Input Volume	561	561
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.5	9.5
Vehicles Exited	677	677
Hourly Exit Rate	677	677
Input Volume	680	680
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.8	6.8
Vehicles Exited	1205	1205
Hourly Exit Rate	1205	1205
Input Volume	1210	1210
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	121	121
Hourly Exit Rate	121	121
Input Volume	120	120
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	204	204
Hourly Exit Rate	204	204
Input Volume	200	200
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	463	463
Hourly Exit Rate	463	463
Input Volume	449	449
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	166	166
Hourly Exit Rate	166	166
Input Volume	169	169
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5

Vehicles Exited	203	203
Hourly Exit Rate	203	203
Input Volume	200	200
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	147	147
Hourly Exit Rate	147	147
Input Volume	150	150
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.6	8.6
Vehicles Exited	1296	1296
Hourly Exit Rate	1296	1296
Input Volume	1280	1280
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	1044	1044
Hourly Exit Rate	1044	1044
Input Volume	1040	1040

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	810	810
Hourly Exit Rate	810	810
Input Volume	820	820
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.1	0.1
Total Del/Veh (s)	1.8	0.7	1.3
Vehicles Exited	826	663	1489
Hourly Exit Rate	826	663	1489
Input Volume	830	670	1500
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	540	540
Hourly Exit Rate	540	540
Input Volume	550	550
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

56: Performance by movement

Movement	NET	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.4	0.5	0.5
Vehicles Exited	412	161	573
Hourly Exit Rate	412	161	573
Input Volume	420	160	580
% of Volume	98	101	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

57: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	0.9		0.2	0.7
Vehicles Exited	410	0	131	541
Hourly Exit Rate	410	0	131	541
Input Volume	420	0	130	551
% of Volume	98	0	101	98
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

58: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	1	0.9
Vehicles Exited	1156	435	1591
Hourly Exit Rate	1156	435	1591
Input Volume	1157	440	1597
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	90	90
Hourly Exit Rate	90	90
Input Volume	90	90
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	587	587
Hourly Exit Rate	587	587
Input Volume	590	590
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	315	315
Hourly Exit Rate	315	315
Input Volume	310	310
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

62: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.9	3.4	2

Vehicles Exited	846	94	940
Hourly Exit Rate	846	94	940
Input Volume	850	100	950
% of Volume	100	94	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

63: Performance by movement

Movement	EBT	SWR	All
Denied Del/Veh (s)	0	0.1	0.1
Total Del/Veh (s)	5.6	1.6	2.4
Vehicles Exited	573	2412	2985
Hourly Exit Rate	573	2412	2985
Input Volume	580	2400	2980
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	442	442
Hourly Exit Rate	442	442
Input Volume	440	440
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	372	372
Hourly Exit Rate	372	372
Input Volume	370	370

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	135	135
Hourly Exit Rate	135	135
Input Volume	140	140
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	346	346
Hourly Exit Rate	346	346
Input Volume	350	350
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	125	125
Hourly Exit Rate	125	125
Input Volume	120	120
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	157	157
Hourly Exit Rate	157	157
Input Volume	150	150
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	363	363
Hourly Exit Rate	363	363
Input Volume	360	360
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	1099	1099
Hourly Exit Rate	1099	1099
Input Volume	1070	1070
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

72: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	1066	1066
Hourly Exit Rate	1066	1066
Input Volume	1080	1080
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.4	0	0.2
Total Del/Veh (s)	2.4	2.8	2.6
Vehicles Exited	433	439	872
Hourly Exit Rate	433	439	872
Input Volume	440	420	860
% of Volume	98	104	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.3	0.2
Total Del/Veh (s)	1.2	0.4	0.8
Vehicles Exited	325	402	727
Hourly Exit Rate	325	402	727
Input Volume	329	401	730
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

75: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4	2	3.1

Vehicles Exited	691	587	1278
Hourly Exit Rate	691	587	1278
Input Volume	680	580	1260
% of Volume	102	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	1188	1188
Hourly Exit Rate	1188	1188
Input Volume	1180	1180
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

77: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	1.5		1.7	1.5
Vehicles Exited	800	0	206	1006
Hourly Exit Rate	800	0	206	1006
Input Volume	810	0	200	1010
% of Volume	99	0	103	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	26	26
Hourly Exit Rate	26	26
Input Volume	31	31

% of Volume	85	85
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	60	60
Hourly Exit Rate	60	60
Input Volume	60	60
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	101	101
Hourly Exit Rate	101	101
Input Volume	101	101
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.8	1.2	1.7
Vehicles Exited	845	221	1066
Hourly Exit Rate	845	221	1066
Input Volume	850	230	1080
% of Volume	99	96	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	79	79
Hourly Exit Rate	79	79
Input Volume	80	80
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	453	453
Hourly Exit Rate	453	453
Input Volume	450	450
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.1	2.6	1.4
Vehicles Exited	804	165	969
Hourly Exit Rate	804	165	969
Input Volume	810	170	980
% of Volume	99	97	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.3	0	0.1
Total Del/Veh (s)	0.5	1.9	1.3
Vehicles Exited	390	568	958
Hourly Exit Rate	390	568	958
Input Volume	390	570	960
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.6	0	0.4
Total Del/Veh (s)	0.8	2.7	1.5
Vehicles Exited	697	436	1133
Hourly Exit Rate	697	436	1133
Input Volume	700	430	1130
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	437	437
Hourly Exit Rate	437	437
Input Volume	420	420
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6

Vehicles Exited	589	589
Hourly Exit Rate	589	589
Input Volume	570	570
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	436	436
Hourly Exit Rate	436	436
Input Volume	441	441
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.4	0	0.1
Total Del/Veh (s)	1.5	5.6	4.1
Vehicles Exited	418	710	1128
Hourly Exit Rate	418	710	1128
Input Volume	410	720	1129
% of Volume	102	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.3	6.4	4.7
Vehicles Exited	838	676	1514
Hourly Exit Rate	838	676	1514
Input Volume	830	670	1500

% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

92: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.5	2.7	4.2
Vehicles Exited	693	586	1279
Hourly Exit Rate	693	586	1279
Input Volume	680	580	1260
% of Volume	102	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	495	495
Hourly Exit Rate	495	495
Input Volume	490	490
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	159	159
Hourly Exit Rate	159	159
Input Volume	150	150
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	166	166
Hourly Exit Rate	166	166
Input Volume	170	170
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

96: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	813	813
Hourly Exit Rate	813	813
Input Volume	820	820
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	189	189
Hourly Exit Rate	189	189
Input Volume	190	190
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	736	736
Hourly Exit Rate	736	736
Input Volume	720	720
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	80	80
Hourly Exit Rate	80	80
Input Volume	80	80
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

100: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	93	93
Hourly Exit Rate	93	93
Input Volume	91	91
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	1.6	1.5

Vehicles Exited	1111	308	1419
Hourly Exit Rate	1111	308	1419
Input Volume	1110	300	1410
% of Volume	100	103	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	711	711
Hourly Exit Rate	711	711
Input Volume	720	720
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

103: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	969	969
Hourly Exit Rate	969	969
Input Volume	980	980
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	806	806
Hourly Exit Rate	806	806
Input Volume	820	820

% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	562	562
Hourly Exit Rate	562	562
Input Volume	560	560
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	1445	1445
Hourly Exit Rate	1445	1445
Input Volume	1440	1440
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	793	793
Hourly Exit Rate	793	793
Input Volume	790	790
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	342	342
Hourly Exit Rate	342	342
Input Volume	340	340
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

109: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	1006	1006
Hourly Exit Rate	1006	1006
Input Volume	1010	1010
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	451	451
Hourly Exit Rate	451	451
Input Volume	460	460
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	533	533
Hourly Exit Rate	533	533
Input Volume	540	540
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	563	563
Hourly Exit Rate	563	563
Input Volume	550	550
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	296	296
Hourly Exit Rate	296	296
Input Volume	290	290
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2

Vehicles Exited	378	378
Hourly Exit Rate	378	378
Input Volume	380	380
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	568	568
Hourly Exit Rate	568	568
Input Volume	570	570
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	431	431
Hourly Exit Rate	431	431
Input Volume	450	450
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

117: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.5	0.8	0.5
Vehicles Exited	862	147	1009
Hourly Exit Rate	862	147	1009
Input Volume	870	140	1011

% of Volume	99	105	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

118: Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.6	1.4	1.3	1.5
Vehicles Exited	862	1	381	1244
Hourly Exit Rate	862	1	381	1244
Input Volume	870	1	380	1251
% of Volume	99	133	100	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	647	647
Hourly Exit Rate	647	647
Input Volume	650	650
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	344	344
Hourly Exit Rate	344	344
Input Volume	340	340
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

121: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	129	129
Hourly Exit Rate	129	129
Input Volume	130	130
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

122: NCC Performance by movement

Movement	WBT	NET	NER	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	3.7		1.1	2.3
Vehicles Exited	972	0	1066	2038
Hourly Exit Rate	972	0	1066	2038
Input Volume	981	0	1080	2061
% of Volume	99	0	99	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	281	281
Hourly Exit Rate	281	281
Input Volume	280	280
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

124: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	31	31
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

125: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.2	0.5	1.1
Vehicles Exited	570	85	655
Hourly Exit Rate	570	85	655
Input Volume	579	90	669
% of Volume	98	95	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	637	637
Hourly Exit Rate	637	637
Input Volume	650	650
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

127: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.8	2.6	2.3

Vehicles Exited	473	828	1301
Hourly Exit Rate	473	828	1301
Input Volume	480	840	1320
% of Volume	98	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

128: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	1.3	1.3
Vehicles Exited	550	391	941
Hourly Exit Rate	550	391	941
Input Volume	560	390	950
% of Volume	98	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

129: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	678	678
Hourly Exit Rate	678	678
Input Volume	680	680
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	1244	1244
Hourly Exit Rate	1244	1244
Input Volume	1250	1250

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	SW	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	548	548
Hourly Exit Rate	548	548
Input Volume	550	550
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.4	1.9	3.3
Vehicles Exited	692	586	1278
Hourly Exit Rate	692	586	1278
Input Volume	680	580	1260
% of Volume	102	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.9	4.1	3
Vehicles Exited	238	260	498
Hourly Exit Rate	238	260	498
Input Volume	230	260	490
% of Volume	103	100	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

134: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	828	828
Hourly Exit Rate	828	828
Input Volume	830	830
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	970	970
Hourly Exit Rate	970	970
Input Volume	950	950
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

138: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	940	940
Hourly Exit Rate	940	940
Input Volume	950	950
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	729	729
Hourly Exit Rate	729	729
Input Volume	731	731
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	200	200
Hourly Exit Rate	200	200
Input Volume	200	200
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.3	0.1
Total Del/Veh (s)	2.5	1.5	2
Vehicles Exited	343	317	660
Hourly Exit Rate	343	317	660
Input Volume	340	320	660
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3

Vehicles Exited	31	31
Hourly Exit Rate	31	31
Input Volume	31	31
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

146: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	341	341
Hourly Exit Rate	341	341
Input Volume	340	340
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

147: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.8	1.6	2.2
Vehicles Exited	178	210	388
Hourly Exit Rate	178	210	388
Input Volume	170	211	381
% of Volume	105	100	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

149: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	681	681
Hourly Exit Rate	681	681
Input Volume	680	680

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	96	96
Hourly Exit Rate	96	96
Input Volume	101	101
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

151: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	31	31
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

152: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	91	91
Hourly Exit Rate	91	91
Input Volume	91	91
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

153: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	324	324
Hourly Exit Rate	324	324
Input Volume	329	329
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	6.6	1.5	4.3
Vehicles Exited	828	663	1491
Hourly Exit Rate	828	663	1491
Input Volume	830	670	1500
% of Volume	100	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1	4.4	2.6
Vehicles Exited	1067	972	2039
Hourly Exit Rate	1067	972	2039
Input Volume	1080	981	2061
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

156: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.5	3	1.8
Vehicles Exited	406	435	841
Hourly Exit Rate	406	435	841
Input Volume	400	430	830
% of Volume	102	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

157: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	110	110
Hourly Exit Rate	110	110
Input Volume	110	110
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

158: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3	0.4	1.6
Vehicles Exited	178	210	388
Hourly Exit Rate	178	210	388
Input Volume	170	211	381
% of Volume	105	100	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

159: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5

Vehicles Exited	680	680
Hourly Exit Rate	680	680
Input Volume	670	670
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

160: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	79	79
Hourly Exit Rate	79	79
Input Volume	80	80
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

161: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	432	432
Hourly Exit Rate	432	432
Input Volume	430	430
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

162: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.1	0.1
Total Del/Veh (s)	0.4	0	0.2
Vehicles Exited	79	80	159
Hourly Exit Rate	79	80	159
Input Volume	80	80	159

% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

163: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	784	784
Hourly Exit Rate	784	784
Input Volume	780	780
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

164: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1	0.4	0.7
Vehicles Exited	175	211	386
Hourly Exit Rate	175	211	386
Input Volume	170	210	381
% of Volume	103	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

165: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	0.8	3.8	2.1
Vehicles Exited	837	678	1515
Hourly Exit Rate	837	678	1515
Input Volume	830	670	1500
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	29	29
Hourly Exit Rate	29	29
Input Volume	31	31
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	38	38
Hourly Exit Rate	38	38
Input Volume	41	41
% of Volume	93	93
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	39	39
Hourly Exit Rate	39	39
Input Volume	41	41
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

172: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	301	301
Hourly Exit Rate	301	301
Input Volume	290	290
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	31	31
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	170	170
Hourly Exit Rate	170	170
Input Volume	171	171
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8

Vehicles Exited	36	36
Hourly Exit Rate	36	36
Input Volume	40	40
% of Volume	89	89
Denied Entry Before	0	0
Denied Entry After	0	0

177: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3	0.8	1.8
Vehicles Exited	176	210	386
Hourly Exit Rate	176	210	386
Input Volume	170	211	381
% of Volume	103	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

178: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.7	1.5	2.5
Vehicles Exited	178	211	389
Hourly Exit Rate	178	211	389
Input Volume	170	211	381
% of Volume	105	100	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

179: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	434	434
Hourly Exit Rate	434	434
Input Volume	430	430

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	79	79
Hourly Exit Rate	79	79
Input Volume	80	80
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	62	62
Hourly Exit Rate	62	62
Input Volume	60	60
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	254	254
Hourly Exit Rate	254	254
Input Volume	250	250
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	31	31
Hourly Exit Rate	31	31
Input Volume	31	31
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

184: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.3	1.3	2.4
Vehicles Exited	210	177	387
Hourly Exit Rate	210	177	387
Input Volume	211	170	381
% of Volume	100	104	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

185: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	29	29
Hourly Exit Rate	29	29
Input Volume	31	31
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

186: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	493	493
Hourly Exit Rate	493	493
Input Volume	501	501
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

187: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	31	31
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

188: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	31	31
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

189: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	0.8	1.2	0.9	0.8

Vehicles Exited	432	6	204	642
Hourly Exit Rate	432	6	204	642
Input Volume	440	6	210	656
% of Volume	98	96	97	98
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

190: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	1547	1547
Hourly Exit Rate	1547	1547
Input Volume	1550	1550
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

194: Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	0.6	0.6
Vehicles Exited	447	108	555
Hourly Exit Rate	447	108	555
Input Volume	457	110	567
% of Volume	98	98	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

195: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	1.6	1.1
Vehicles Exited	995	285	1280
Hourly Exit Rate	995	285	1280
Input Volume	997	290	1287

% of Volume	100	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

197: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	587	587
Hourly Exit Rate	587	587
Input Volume	590	590
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

198: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	636	636
Hourly Exit Rate	636	636
Input Volume	650	650
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	1007	1007
Hourly Exit Rate	1007	1007
Input Volume	1010	1010
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

201: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.2	0	0.3	0.8
Vehicles Exited	955	17	590	1562
Hourly Exit Rate	955	17	590	1562
Input Volume	960	18	590	1568
% of Volume	99	97	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

202: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	586	586
Hourly Exit Rate	586	586
Input Volume	590	590
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	131	131
Hourly Exit Rate	131	131
Input Volume	130	130
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	1418	1418
Hourly Exit Rate	1418	1418
Input Volume	1410	1410
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

500: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.1	0	0
Total Del/Veh (s)	0.4	1.9	1.5
Vehicles Exited	285	681	966
Hourly Exit Rate	285	681	966
Input Volume	280	680	960
% of Volume	102	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	31.6
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	25
Denied Entry Before	0
Denied Entry After	0

Queuing and Blocking Report

Baseline 9/3/2014

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	108	172	193	219	99	255	215	243	253	72	233	104	67	175
Average Queue (ft)	34	90	94	112	42	115	84	114	125	20	106	34	17	70
95th Queue (ft)	80	151	166	194	78	202	174	207	219	54	187	79	50	143
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	530				410	580				530	330		300	
Storage Blk Time (%)														0
Queuing Penalty (veh)														0

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	L	T	T	TR
Maximum Queue (ft)	96	123	146	174	148	143	173	173	201	212	222	43	66	58	70	70	62	28	79	83	90	67
Average Queue (ft)	26	50	62	76	68	29	84	97	91	90	96	7	16	23	20	25	13	2	19	34	21	21
95th Queue (ft)	69	101	128	146	132	98	143	151	168	166	176	29	46	51	53	54	43	16	54	67	59	52
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923		3946	3946	3946
Upstream Blk Time (%)																						
Queuing Penalty (veh)																						
Storage Bay Dist (ft)	715				355	920	920	920				750	800						550			
Storage Blk Time (%)																						
Queuing Penalty (veh)																						

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	216	185	112	467	220	76	204	185	169	290	351
Average Queue (ft)	98	77	12	251	107	22	102	94	67	142	189
95th Queue (ft)	180	154	52	417	252	58	182	158	133	242	304
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				0							

Queuing Penalty (veh)			2				
Storage Bay Dist (ft)	250	90		160	185	290	
Storage Blk Time (%)	0		37	0	1		0
Queuing Penalty (veh)	0		53	0	0		0

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	168	161	243	210
Average Queue (ft)	93	72	93	68
95th Queue (ft)	151	135	199	166
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	164	172	41	63
Average Queue (ft)	72	80	2	21
95th Queue (ft)	137	134	31	51
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		530		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	L	T	T	T	>
Maximum Queue (ft)	55	73	158	124	136	192	125	135	119	78	71	63	73	133	167	129	141
Average Queue (ft)	8	25	65	52	66	103	48	51	39	16	20	9	22	66	75	26	57

95th Queue (ft)	32	60	126	101	112	171	103	100	88	53	52	36	57	120	138	80	111
Link Distance (ft)			1111		1063	1063		737	737	737	737			1039	1039	1039	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300	300		300			700					300	550				650
Storage Blk Time (%)																	
Queuing Penalty (veh)																	

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	177	191	159	180	168	101	146	157	259	272	253	222	164	177	202	235	196	107	88	143	251	228	198
Average Queue (ft)	84	96	98	109	96	50	63	83	157	176	149	97	72	89	119	137	107	39	18	69	161	133	92
95th Queue (ft)	143	153	145	162	155	87	116	132	231	250	227	190	139	153	181	206	179	80	57	124	234	215	174
Link Distance (ft)			4930	4930	4930				3438	3438	3438				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)																							
Queuing Penalty (veh)																							
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)									0					0	0		0						
Queuing Penalty (veh)									0					0	0		0						

Intersection: 8: Coffee Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	24	58	101	119	128	68	256	69	58	71	67	126	115	192
Average Queue (ft)	1	14	33	49	66	17	127	17	9	17	15	58	44	76
95th Queue (ft)	11	41	77	102	111	50	216	47	34	48	45	104	94	143
Link Distance (ft)		860	860		880	880		902	902			952	952	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	500			500			600			600	650			650
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB

Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	112	143	180	156	46	97	130	256	258	205	211	250	163	154	82	242	213	132
Average Queue (ft)	19	67	95	50	4	40	55	153	154	96	99	153	77	56	25	147	95	65
95th Queue (ft)	68	123	153	112	22	79	109	218	225	186	198	225	139	114	62	214	190	111
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)								0				0				0		
Queuing Penalty (veh)								0				0				0		

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	101	154	160	128	148	184	197	201	102	142	138	186	131
Average Queue (ft)	30	61	57	59	81	81	96	91	36	68	45	72	46
95th Queue (ft)	79	113	117	112	129	153	174	166	82	124	99	141	97
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								1			0	12	1
Queuing Penalty (veh)								0			0	16	1

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	127	82	90	210	258	42	80	124	140	133	114	216	265
Average Queue (ft)	47	22	35	70	139	7	27	51	61	60	33	91	139
95th Queue (ft)	100	62	72	164	222	27	66	104	112	109	82	168	229
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		
Storage Blk Time (%)													
Queuing Penalty (veh)													

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	145	176	90	49	49	159	112	29	50	262	286	129	111	48	338	284	156
Average Queue (ft)	37	88	34	6	9	88	37	3	7	151	185	63	40	9	207	151	69
95th Queue (ft)	104	147	72	27	34	141	89	20	29	240	263	111	91	34	303	265	125
Link Distance (ft)		1374	1374	1374		1274	1274	1274			2052	2052	2052		466	466	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)															1	0	
Queuing Penalty (veh)															0	0	

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	198	256	134	556	210	203	377	225	309	156
Average Queue (ft)	85	109	27	261	124	48	169	110	104	72
95th Queue (ft)	165	211	85	483	251	131	313	204	238	140
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			1	48	1		3	2	9	1
Queuing Penalty (veh)			6	96	3		2	6	27	3

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	77	87	120	76	72	58	45	11	7	42	13	5
Average Queue (ft)	23	32	53	25	27	16	6	1	0	5	0	0
95th Queue (ft)	57	71	92	57	58	42	28	8	0	25	6	3
Link Distance (ft)		1163			1019			1058	1058		414	414
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300	300		300	300			300		

Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	111	136	190	93	100	87	80
Average Queue (ft)	60	61	86	33	35	38	39
95th Queue (ft)	99	108	149	75	78	73	63
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		300	400				150
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	118	138	191	221	165	86	39	69	93	139	170	148	48	41	94	107	98	114	74	37	62	132	126	156
Average Queue (ft)	48	69	93	117	46	34	7	17	36	74	75	45	8	2	35	46	40	46	21	3	13	58	41	71
95th Queue (ft)	100	116	160	183	125	70	27	48	74	124	138	110	29	14	74	90	79	97	51	18	40	110	93	128
Link Distance (ft)			1066	1066	1066				1607	1607	1607	1607				1090	1090	1090				1218	1218	
Upstream Blk Time (%)																								
Queuing Penalty (veh)																								
Storage Bay Dist (ft)	800	800				1000	970	970					850	720	720				1000	520	520			720
Storage Blk Time (%)																								
Queuing Penalty (veh)																								

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	WB	SB	SB
Directions Served	L	TR	L	R
Maximum Queue (ft)	63	11	75	83
Average Queue (ft)	14	1	33	44
95th Queue (ft)	45	10	65	73
Link Distance (ft)		5348	826	

Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	300			300										
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 18: Bentley & NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L	T	R
Maximum Queue (ft)	143	165	185	57	58	205	191	32	128	79	34	47	124	56
Average Queue (ft)	61	67	77	14	9	88	98	4	49	23	5	8	44	14
95th Queue (ft)	114	130	145	39	34	159	162	20	99	59	20	30	98	39
Link Distance (ft)		2753	2753			2387	2387			1462			1179	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	680			580	770			720	200		300	150		200
Storage Blk Time (%)									0				0	
Queuing Penalty (veh)									0				0	

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	97	127	137	74	138	102	102	94	116	102	96
Average Queue (ft)	35	46	56	28	61	37	45	35	48	26	42
95th Queue (ft)	74	99	111	63	115	79	83	70	89	65	76
Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)									1	0	0
Queuing Penalty (veh)									2	0	1

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	373	255	267	284	202	286	254	153	495	450

Average Queue (ft)	75	153	144	131	132	81	152	155	60	285	243
95th Queue (ft)	128	297	237	230	241	151	247	239	111	443	397
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	31	44	2	0	0			0			
Queuing Penalty (veh)	114	128	5	0	0			1			

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	83	205	232	174	150	188	140	159	145	98	103	189	153
Average Queue (ft)	31	102	108	83	69	78	58	93	57	37	26	89	46
95th Queue (ft)	68	177	192	146	128	148	114	140	113	82	70	156	102
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)		0		0	0			0	13	1	0	8	0
Queuing Penalty (veh)		0		0	0			0	46	5	0	9	0

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	141	61	110	121	120	100	117	120	295	309	67	159	264	281
Average Queue (ft)	56	19	40	42	54	30	41	45	161	167	19	70	130	153
95th Queue (ft)	112	50	84	92	100	73	88	96	264	270	53	136	225	248
Link Distance (ft)		5602			2173	2173			1383	1383			2186	2186
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	225		225	225			225	400			300	400		
Storage Blk Time (%)										0			0	
Queuing Penalty (veh)										0			0	

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	61	45	48	73	58	67	127	97	57	152	137	49
Average Queue (ft)	15	8	12	23	14	17	48	26	12	70	37	9
95th Queue (ft)	43	30	33	57	43	50	102	69	40	128	95	35
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	46	75	76	72	88	75	82	102	81	110	127	72	116	154	75	135
Average Queue (ft)	5	29	23	22	39	18	24	35	13	41	53	16	42	58	9	57
95th Queue (ft)	25	64	59	57	74	52	62	78	51	89	96	46	90	117	45	105
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	600				700	600				600
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 25: Roselle & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	27	13	113	73	85	80	154	108	73	84	87	125	123	51
Average Queue (ft)	3	1	47	19	41	29	62	32	5	19	20	51	49	5
95th Queue (ft)	16	7	91	54	73	66	122	83	32	55	57	99	102	27
Link Distance (ft)			1221		1142	1142		671	671			1058	1058	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	500	500		500			400			400	550			550
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 27: NCC & Albers Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T	R	L	T
Maximum Queue (ft)	283	260	44	53	64	117	126	79	80	50	28	269	101	28	292
Average Queue (ft)	133	133	5	11	14	38	54	19	27	6	6	125	39	3	127
95th Queue (ft)	236	223	23	37	45	91	102	54	65	28	22	232	82	16	250
Link Distance (ft)			1126	1126				2965	2965			2741			1383
Upstream Blk Time (%)															
Queuing Penalty (veh)															
Storage Bay Dist (ft)	920	920			580	720	720			580	200		300	200	
Storage Blk Time (%)												2			2
Queuing Penalty (veh)												3			0

Intersection: 28: NCC & SMITH

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	97	31	65	20	43	89	93	40	59	57	68
Average Queue (ft)	35	3	12	1	8	23	23	3	17	14	23
95th Queue (ft)	74	17	43	11	29	66	67	20	44	42	53
Link Distance (ft)		5343	5343			4038	4038		1306	1066	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	870			670	650			650			630
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 29: NCC & SR 120/108

Movement	EB	WB	NB
Directions Served	TR	LT	L
Maximum Queue (ft)	99	53	31
Average Queue (ft)	25	5	2
95th Queue (ft)	70	31	15
Link Distance (ft)	2713	1095	1613
Upstream Blk Time (%)			
Queuing Penalty (veh)			

Storage Bay Dist (ft)														
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	65	55	37	60	111	62	77	88	28	39	111	101	123	43
Average Queue (ft)	18	15	6	12	43	7	17	21	1	8	49	30	42	4
95th Queue (ft)	50	42	26	40	82	35	54	63	13	29	95	78	98	22
Link Distance (ft)		882		1236		1039	1039	1039			2422	2422	2422	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	300		300		300				300	300				300
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	69	80	69	64	68	130	88	45	30	65	136	147	56
Average Queue (ft)	18	26	23	21	20	44	21	6	2	24	47	65	10
95th Queue (ft)	53	64	55	49	51	102	62	29	13	55	108	124	37
Link Distance (ft)		430		638		834	834				757	757	757
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	300		300		300			400	450	450			
Storage Blk Time (%)													
Queuing Penalty (veh)													

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T
Maximum Queue (ft)	38	67	66	49	36	2	7	2	26	2	7
Average Queue (ft)	7	14	15	12	4	0	0	0	2	0	0
95th Queue (ft)	29	43	45	36	21	2	2	2	13	2	4

Link Distance (ft)		1262		2030		952	952			1360	1360
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300		300		300			300	300		
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	R
Maximum Queue (ft)	68	73	42	71	27	1	1	38	6
Average Queue (ft)	17	16	7	27	3	0	0	5	0
95th Queue (ft)	51	50	28	62	16	1	1	22	0
Link Distance (ft)		756		1081		1259	1259		
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	300		300		300			300	300
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	T	R
Maximum Queue (ft)	103	73	74	92	38	7	9	30	2	3	1
Average Queue (ft)	33	28	21	28	4	0	0	5	0	0	0
95th Queue (ft)	80	60	58	68	22	2	5	21	0	3	1
Link Distance (ft)		636		496		370	370		1357	1357	1357
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300		300		300			300			
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T

Maximum Queue (ft)	70	104	120	107	60	113	135
Average Queue (ft)	18	48	42	29	16	27	48
95th Queue (ft)	54	84	94	76	48	79	105
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Davis & Claribel Realigned (N)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	63	64	22	21
Average Queue (ft)	24	24	1	1
95th Queue (ft)	54	54	10	13
Link Distance (ft)	662	702		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			50	50
Storage Blk Time (%)			0	0
Queuing Penalty (veh)			0	0

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	89	72	102	36	93	118	64	92	154
Average Queue (ft)	36	26	45	7	28	48	17	31	57
95th Queue (ft)	76	62	81	28	70	98	47	71	116
Link Distance (ft)		1110	417		1218	1218		1028	1028
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	L
Maximum Queue (ft)	82	58	10	11	28	58
Average Queue (ft)	26	21	0	0	2	15
95th Queue (ft)	59	49	6	7	14	44
Link Distance (ft)	437		1878			
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		300		300	890	890
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 40: NCC

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LT	LT	LT	TR	LT	TR
Maximum Queue (ft)	39	36	43	29	43	26
Average Queue (ft)	2	3	4	1	3	1
95th Queue (ft)	18	19	22	12	21	13
Link Distance (ft)	2783	3328	611	611	815	815
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 56:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 57:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 58:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 62: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)

Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 63:

Movement	SW	SW
Directions Served	R	R
Maximum Queue (ft)	4	4
Average Queue (ft)	0	0
95th Queue (ft)	4	4
Link Distance (ft)	388	388
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 77:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 81:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)

95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 84: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 90: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	127
Average Queue (ft)	5
95th Queue (ft)	78
Link Distance (ft)	586
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101:

Movement

Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 117: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 118:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 122: NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 125: NCC SPUI & NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 128:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)

Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 189:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 194:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 195:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)

Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 201:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary
Network wide Queuing Penalty: 529

SimTraffic Performance Report
2022 Alternative 2B PM Peak Hour
9/3/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.9	0.1	0.8	0	0	0	2	0.3	0.3	2	0.2	0.3	0.2
Total Del/Veh (s)	31.3	17.9	6.3	34.4	16.9	7.6	28.6	26.1	11.8	29.3	24.9	9	18.2
Vehicles Exited	40	976	162	90	961	39	77	82	102	58	84	12	2683
Hourly Exit Rate	40	976	162	90	961	39	77	82	102	58	84	12	2683
Input Volume	40	970	150	90	962	40	80	90	100	60	80	10	2671
% of Volume	101	101	108	100	100	98	96	91	102	97	105	117	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	39.6	28.9	14.2	29.7	11.5	2.9	24.6	20.9	4.8	29.2	26.3	7.3	19.7
Vehicles Exited	22	946	167	310	812	38	251	162	478	71	146	23	3426
Hourly Exit Rate	22	946	167	310	812	38	251	162	478	71	146	23	3426
Input Volume	20	940	170	310	820	40	250	160	480	70	140	20	3422
% of Volume	109	101	98	100	99	96	100	101	100	101	104	114	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.4	0.3	0	0	0	0	0	0	0.3	0.2	0.2	0.2
Total Del/Veh (s)	64.9	30.3	18.8	58.2	37.9	9.5	49.8	34.8	28.3	89.5	32.3	24.9	40.4
Vehicles Exited	186	301	23	9	308	91	58	429	10	222	477	188	2302
Hourly Exit Rate	186	301	23	9	308	91	58	429	10	222	477	188	2302
Input Volume	190	310	20	10	310	90	60	430	10	220	480	190	2322
% of Volume	98	97	114	88	99	101	97	100	98	101	99	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	15.1	5.2	7.6	0.7	12.1	8.5
Vehicles Exited	101	11	484	262	512	1370
Hourly Exit Rate	101	11	484	262	512	1370
Input Volume	100	10	490	260	511	1370
% of Volume	101	107	99	101	100	100
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	0.4	0.4	0	0.2
Total Del/Veh (s)	22.7	10.7	17.7	3.3	6.7	12.9
Vehicles Exited	524	12	100	407	262	1305
Hourly Exit Rate	524	12	100	407	262	1305
Input Volume	532	10	100	410	260	1312
% of Volume	99	117	100	99	101	100
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	20.3	0.6	18.8	19.9	0.2	22.3	17.6	11.4	5	21.7	16.7	7.2	14.3
Vehicles Exited	235	1	194	195	1	139	132	571	437	100	454	139	2598
Hourly Exit Rate	235	1	194	195	1	139	132	571	437	100	454	139	2598
Input Volume	230	1	200	200	1	140	130	580	430	100	450	140	2602
% of Volume	102	133	97	98	133	99	101	98	102	100	101	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.2	0.4	0.1	0.2	0.3	0.1	0.2	2.2	0.3	0.4	0.4
Total Del/Veh (s)	41.6	60.4	18.4	41.4	31.2	4.1	45.5	42.5	21	38.8	27	20.4	37.2
Vehicles Exited	258	983	372	276	592	153	284	925	300	476	894	223	5736
Hourly Exit Rate	258	983	372	276	592	153	284	925	300	476	894	223	5736
Input Volume	260	980	370	270	600	160	290	910	290	490	910	220	5749
% of Volume	99	100	100	102	99	96	98	102	103	97	98	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

8: Coffee Rd Performance by movement

Movement	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	17.3	15.1	15	29.7	18.8	7.2	4.8	34.8	16.4	7.4	13.4
Vehicles Exited	376	129	216	12	229	210	286	21	228	148	1855
Hourly Exit Rate	376	129	216	12	229	210	286	21	228	148	1855
Input Volume	370	130	210	10	240	211	290	20	231	140	1854
% of Volume	102	99	103	117	95	99	99	104	99	106	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2	0.1	2	1.3	0.1	0.1	2.8	0.1	0.1	3.2	0.1	3.3	1
Total Del/Veh (s)	35.9	23.6	7.5	36.2	26.3	9.6	31	19	9.5	36	27.1	8.4	22.5
Vehicles Exited	292	943	408	60	544	81	326	408	79	58	246	206	3651
Hourly Exit Rate	292	943	408	60	544	81	326	408	79	58	246	206	3651
Input Volume	300	940	400	60	530	80	320	400	80	60	240	200	3610
% of Volume	97	100	102	100	103	102	102	102	99	97	102	103	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.2	0.2	0.2	0.3	0.2	0.1	1.4	0.2	0.1	2.3	0.3	2.2	0.4
Total Del/Veh (s)	53.4	27.2	21.5	46.5	17.8	13.1	50.1	31.4	43.3	55.5	43.3	6.5	33.6

Vehicles Exited	83	633	118	384	396	29	136	78	298	46	60	38	2299
Hourly Exit Rate	83	633	118	384	396	29	136	78	298	46	60	38	2299
Input Volume	90	640	120	380	390	30	140	80	290	50	60	40	2310
% of Volume	92	99	98	101	102	97	97	97	103	92	100	96	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.2	0.2	0.4	0.2	3.3	0	0	0	0.2	0.1	0.1	0.3
Total Del/Veh (s)	23.3	37.7	7	28.2	43	3.2	37.1	20.3	7.6	37.5	20.5	15.1	19.8
Vehicles Exited	76	20	101	369	10	39	58	491	354	53	501	40	2112
Hourly Exit Rate	76	20	101	369	10	39	58	491	354	53	501	40	2112
Input Volume	80	20	100	360	10	40	60	500	360	60	500	40	2130
% of Volume	95	99	101	102	98	98	97	98	98	88	100	101	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.6	0.5	2.8	3.7	0.1	3.8	0.3	0.1	0.2	2.9	0.3	3	1
Total Del/Veh (s)	42.2	21.3	4.9	35.6	29.1	4.6	31.9	12.8	6.6	38	25.6	5.9	19.1
Vehicles Exited	212	292	658	19	197	20	336	674	37	22	590	158	3215
Hourly Exit Rate	212	292	658	19	197	20	336	674	37	22	590	158	3215
Input Volume	210	290	650	20	200	20	340	680	40	20	600	160	3230
% of Volume	101	101	101	94	99	99	99	99	93	109	98	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	1	0	0	0	0	0	0	0	0	0	1

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.3	0.4	0.4	3.6	0.5	0.5	2.3	1	2.4	0.8
Total Del/Veh (s)	49.2	37.9	32.5	65	45.5	17.6	35.7	43.4	35.2	43.1	40.2	11.5	38.5
Vehicles Exited	238	481	31	27	298	118	61	225	29	221	182	175	2086
Hourly Exit Rate	238	481	31	27	298	118	61	225	29	221	182	175	2086
Input Volume	240	490	30	30	290	120	60	220	30	220	180	170	2079

% of Volume	99	98	104	91	103	98	102	102	97	100	101	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.5	3.9	3.9	0.4	3.9	0	0	0	0	0	0	0.7
Total Del/Veh (s)	15	20.9	5	19.9	17.6	2.7	7	3.4	1.5	3.4	0.8	0.2	5.4
Vehicles Exited	17	50	105	47	60	22	125	367	22	32	312	22	1181
Hourly Exit Rate	17	50	105	47	60	22	125	367	22	32	312	22	1181
Input Volume	20	50	100	50	60	20	130	371	20	30	310	20	1182
% of Volume	84	100	105	94	100	109	96	99	109	108	101	109	100
Denied Entry Before	0	0	1	0	0	0	0	0	0	0	0	0	1
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.7	3.7	0.5
Total Del/Veh (s)	14.3	9.5	19.5	3.1	20.8	6.8	11.3
Vehicles Exited	581	204	256	363	53	216	1673
Hourly Exit Rate	581	204	256	363	53	216	1673
Input Volume	590	210	260	370	50	210	1690
% of Volume	98	97	99	98	106	103	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	27.2	19.8	4.4	32.7	21.4	3.6	37.3	17.2	3	31	29.3	9.8	20.7
Vehicles Exited	310	607	196	229	514	36	239	136	170	28	193	302	2960
Hourly Exit Rate	310	607	196	229	514	36	239	136	170	28	193	302	2960
Input Volume	310	591	200	220	510	40	230	130	170	30	200	300	2932
% of Volume	100	103	98	104	101	91	104	104	100	94	96	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	1.9	0.5	0.2	0.2	0.5	3.9	1.3
Total Del/Veh (s)	11.7	4.4	13.2	6.1	14	4.5	8.9
Vehicles Exited	195	196	160	51	61	126	789
Hourly Exit Rate	195	196	160	51	61	126	789
Input Volume	190	200	160	50	60	120	780
% of Volume	102	98	100	102	102	105	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

18: Bentley & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	4	0.3	4.1	4	0.5	3.8	0.4
Total Del/Veh (s)	27.9	15.7	7.4	22.2	13.9	3.7	23.6	13.3	3.9	23.8	15.3	5.7	14.2
Vehicles Exited	48	624	121	49	607	11	30	76	11	9	71	129	1786
Hourly Exit Rate	48	624	121	49	607	11	30	76	11	9	71	129	1786
Input Volume	50	620	120	50	611	10	30	80	10	10	70	130	1792
% of Volume	96	101	101	98	99	107	101	95	107	88	101	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.5	0.5	0.5	3.8	0.4	0.4	2.1	0.4	2.1	0.6
Total Del/Veh (s)	22.8	9.2	4.9	25.8	13.6	7.2	19.6	14.3	6.7	19.1	15.5	5.4	12.4
Vehicles Exited	88	538	41	28	492	76	91	52	60	90	41	91	1688
Hourly Exit Rate	88	538	41	28	492	76	91	52	60	90	41	91	1688
Input Volume	90	530	40	30	490	70	90	50	60	90	40	90	1668
% of Volume	98	101	103	94	100	108	101	104	100	100	103	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.5	0.5	0.4	0.3	0.1	0.1	1.8	0.9	1.8	0.2	0.1	0.2	0.5
Total Del/Veh (s)	71.2	36.5	25.8	52.4	36	12.4	41.3	41.3	9.2	46.9	42.1	35.3	36
Vehicles Exited	60	368	59	114	322	360	121	449	152	297	410	68	2780
Hourly Exit Rate	60	368	59	114	322	360	121	449	152	297	410	68	2780
Input Volume	60	380	60	110	320	360	120	460	150	300	410	70	2800
% of Volume	100	97	98	104	101	100	101	98	102	99	100	97	99
Denied Entry Before	0	0	0	0	0	0	0	1	0	0	0	0	1
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.7	0.1	0.2	0.3	0.1	0.1	2	0.7	2	0.3	0.3	0.3	0.6
Total Del/Veh (s)	31.7	18	9.2	29	16	9.6	29.4	21.9	7.5	32.4	25.7	7.9	18.2
Vehicles Exited	67	274	190	111	349	84	134	173	199	78	121	87	1867
Hourly Exit Rate	67	274	190	111	349	84	134	173	199	78	121	87	1867
Input Volume	70	270	180	110	350	80	140	170	190	80	120	80	1841
% of Volume	95	102	106	101	100	105	96	102	105	97	101	108	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.3	3.9	0.1	3.8	0	0	0	2.7	0.3	0.3	0.6
Total Del/Veh (s)	34.8	28.9	16.3	33.5	32.1	8	36.6	27.2	7.5	33.6	22.7	17.4	25.1
Vehicles Exited	116	188	48	37	60	115	50	628	70	186	723	88	2309
Hourly Exit Rate	116	188	48	37	60	115	50	628	70	186	723	88	2309
Input Volume	120	190	50	40	60	120	50	631	70	180	720	80	2311
% of Volume	97	99	96	93	100	96	100	100	100	103	100	110	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.2	0.3	4.1	2.6	0.2	0.2	3.3	0.1	0.2	3.3	0.1	3.4	0.5
Total Del/Veh (s)	18.9	18.8	3.1	17.6	16.7	4.2	17.5	7.1	2.8	16.3	6.6	3.3	7.8

Vehicles Exited	8	19	33	39	21	11	18	528	40	21	379	18	1135
Hourly Exit Rate	8	19	33	39	21	11	18	528	40	21	379	18	1135
Input Volume	10	20	30	40	20	10	20	530	40	20	380	20	1141
% of Volume	78	94	111	98	104	107	89	100	101	104	100	89	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0		0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	18.8		22.8	16.1	23.6	20	11	4.9	23.1	13.5	6.8	13.5
Vehicles Exited	321	0	116	181	70	8	509	146	43	642	288	2324
Hourly Exit Rate	321	0	116	181	70	8	509	146	43	642	288	2324
Input Volume	330	0	120	180	70	10	521	150	40	631	290	2342
% of Volume	97	0	97	101	100	78	98	97	108	102	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

25: Roselle & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	18.2	0.2	15.3	19.2	0	20.5	15.3	8	4.2	24.6	14.5	3.7	12.4
Vehicles Exited	50	10	255	93	5	70	118	394	216	52	382	31	1676
Hourly Exit Rate	50	10	255	93	5	70	118	394	216	52	382	31	1676
Input Volume	50	8	250	90	4	70	120	400	210	50	381	30	1663
% of Volume	100	118	102	104	118	100	98	98	103	104	100	104	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

26: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	715	715
Hourly Exit Rate	715	715
Input Volume	700	700

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

27: NCC & Albers Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.4	0.5	0.4	0	0	0	0.1
Total Del/Veh (s)	21.1	15.1	3.4	23.5	22.2	5.5	34.5	17	7.3	36.5	22.4	11.9	16.9
Vehicles Exited	478	153	12	167	143	21	10	247	251	8	289	516	2295
Hourly Exit Rate	478	153	12	167	143	21	10	247	251	8	289	516	2295
Input Volume	480	150	10	170	140	20	10	250	250	10	280	520	2293
% of Volume	100	102	117	98	102	104	98	99	100	78	103	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & SMITH Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0.4	0.3	3.9	0.5
Total Del/Veh (s)	12.5	5.8	3.3	17.9	10.1	3	10.5	10.7	3.3	12.5	10.6	3.6	8.1
Vehicles Exited	120	278	11	10	219	11	10	10	12	10	31	101	823
Hourly Exit Rate	120	278	11	10	219	11	10	10	12	10	31	101	823
Input Volume	120	280	10	10	220	10	10	10	10	10	30	100	822
% of Volume	100	99	107	98	100	107	98	98	117	98	104	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.3	0.3	0	0	0		0	0.1
Total Del/Veh (s)	8.8	4.3	5.2	9.4	1.9		3.2	6.3
Vehicles Exited	251	31	206	227	74	0	228	1017
Hourly Exit Rate	251	31	206	227	74	0	228	1017
Input Volume	250	30	210	220	70	0	230	1010
% of Volume	100	104	98	103	105	0	99	101
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.3	0.3	4.1	0.2	0.2	0	0	0	1.3	0.1	1.6	0.2
Total Del/Veh (s)	17.7	13.5	4.7	17.7	13.6	4.5	18.7	7.1	3.5	20.8	7.3	2.3	8
Vehicles Exited	37	12	103	18	19	18	80	847	20	20	570	22	1766
Hourly Exit Rate	37	12	103	18	19	18	80	847	20	20	570	22	1766
Input Volume	40	10	100	20	20	20	80	850	20	20	570	20	1772
% of Volume	93	117	103	89	94	89	100	100	99	99	100	109	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.4	0.4	4	0.3	0.3	2.5	0.3	2.6	0	0	0	0.4
Total Del/Veh (s)	23.5	26.3	8	25.8	24.8	11.6	24.8	9.3	2.8	24.6	7.3	1.4	9.9
Vehicles Exited	75	8	71	38	10	60	38	1005	41	56	728	59	2189
Hourly Exit Rate	75	8	71	38	10	60	38	1005	41	56	728	59	2189
Input Volume	80	10	70	40	10	60	40	1000	40	60	730	60	2200
% of Volume	93	78	101	96	98	100	96	101	103	93	100	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.1	0.1	0.1	0.1	0.1	0.1	0	0	0	3.3	0.2	3.2	0.2
Total Del/Veh (s)	10.1	7.7	2.8	10.9	7.8	2.6	11.5	4.1	2.7	9.1	2.3	1.8	3.7
Vehicles Exited	8	10	11	19	9	12	9	566	22	10	368	14	1058
Hourly Exit Rate	8	10	11	19	9	12	9	566	22	10	368	14	1058
Input Volume	10	10	10	20	10	10	10	560	20	10	360	10	1042
% of Volume	78	98	107	94	88	117	88	101	109	98	102	137	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.1	4	0.1	0.1	3.2	0.3	2.8	0	0	0	0.3
Total Del/Veh (s)	13.3	9	3.9	13.3	8.4	4.3	10.5	3.5	3.1	13.9	4.4	2.6	4.3
Vehicles Exited	17	11	10	9	11	19	11	689	10	16	536	21	1360
Hourly Exit Rate	17	11	10	9	11	19	11	689	10	16	536	21	1360
Input Volume	20	10	10	10	10	20	10	700	10	20	531	20	1374
% of Volume	84	107	98	88	107	94	107	98	98	79	101	104	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4	0.1	0.2	4.3	0.1	0.1	3.1	0.3	3	0	0	0	0.3
Total Del/Veh (s)	16	15	5.3	19.3	13.5	4.2	16.7	4.1	1.4	17.9	6.6	2.7	6.1
Vehicles Exited	19	10	21	8	10	12	21	631	22	41	855	43	1693
Hourly Exit Rate	19	10	21	8	10	12	21	631	22	41	855	43	1693
Input Volume	20	10	20	10	10	10	20	650	20	40	851	40	1702
% of Volume	94	98	104	78	98	117	104	97	109	103	100	108	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	2.1	0.2	0.2	0.2	0	0	0.2
Total Del/Veh (s)	15.6	5	4.8	2.3	14.6	4.3	5.1
Vehicles Exited	38	40	686	41	42	685	1532
Hourly Exit Rate	38	40	686	41	42	685	1532
Input Volume	40	40	690	40	40	680	1529
% of Volume	96	101	99	103	106	101	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Davis & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	4.1	0.2	0.2	0	0	0	0.2
Total Del/Veh (s)	5.7	7.1	3.2	5.5	6.4	3.1	2.2	0.4	0.2	2.5	0.9	0.6	1.6

Vehicles Exited	9	12	10	12	11	12	9	109	12	10	103	12	321
Hourly Exit Rate	9	12	10	12	11	12	9	109	12	10	103	12	321
Input Volume	10	10	10	10	10	10	10	110	10	10	100	10	312
% of Volume	88	117	98	117	107	117	88	99	117	98	103	117	103
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.3	0.4	0.3	0	0	0	3.4	0.2	0.2	0.2
Total Del/Veh (s)	13	10.8	3.6	13.2	13.6	8.6	23.7	11	7.1	19.4	9.5	4.8	10.9
Vehicles Exited	99	13	20	208	9	29	22	428	31	40	295	94	1288
Hourly Exit Rate	99	13	20	208	9	29	22	428	31	40	295	94	1288
Input Volume	100	10	20	210	10	30	20	431	30	40	300	90	1291
% of Volume	99	124	99	99	88	97	109	99	104	101	98	105	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.2	1.5	0	0	0.1
Total Del/Veh (s)	11.6	3.9	4.1	2.3	9.9	4	4.4
Vehicles Exited	37	40	505	37	34	584	1237
Hourly Exit Rate	37	40	505	37	34	584	1237
Input Volume	40	40	490	40	40	581	1230
% of Volume	93	101	103	93	86	100	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.6	7.6
Vehicles Exited	553	553
Hourly Exit Rate	553	553
Input Volume	560	560

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0
Total Del/Veh (s)	2.4	8.5	5.1	1.6	5.6	1.7	3.8	4.4	2.8	2.9	4	2.3	6.5
Vehicles Exited	9	283	12	9	218	12	9	9	10	10	10	12	603
Hourly Exit Rate	9	283	12	9	218	12	9	9	10	10	10	12	603
Input Volume	10	280	10	10	220	10	10	10	10	10	10	10	602
% of Volume	88	101	117	88	99	117	88	88	98	98	98	117	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	552	552
Hourly Exit Rate	552	552
Input Volume	540	540
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.3	7.3
Vehicles Exited	704	704
Hourly Exit Rate	704	704
Input Volume	710	710
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.6	10.6
Vehicles Exited	872	872
Hourly Exit Rate	872	872
Input Volume	880	880
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	1334	1334
Hourly Exit Rate	1334	1334
Input Volume	1330	1330
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	191	191
Hourly Exit Rate	191	191
Input Volume	200	200
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	327	327
Hourly Exit Rate	327	327
Input Volume	320	320
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	423	423
Hourly Exit Rate	423	423
Input Volume	410	410
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	442	442
Hourly Exit Rate	442	442
Input Volume	440	440
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7

Vehicles Exited	216	216
Hourly Exit Rate	216	216
Input Volume	210	210
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	110	110
Hourly Exit Rate	110	110
Input Volume	109	109
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	1102	1102
Hourly Exit Rate	1102	1102
Input Volume	1110	1110
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6	6
Vehicles Exited	861	861
Hourly Exit Rate	861	861
Input Volume	870	870

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	1267	1267
Hourly Exit Rate	1267	1267
Input Volume	1270	1270
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	1.7	0.7	1.2
Vehicles Exited	800	779	1579
Hourly Exit Rate	800	779	1579
Input Volume	790	770	1560
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1224	1224
Hourly Exit Rate	1224	1224
Input Volume	1240	1240
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

56: Performance by movement

Movement	NET	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	1	0.9
Vehicles Exited	1066	430	1496
Hourly Exit Rate	1066	430	1496
Input Volume	1060	430	1490
% of Volume	101	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

57: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.7	1	1.5
Vehicles Exited	1066	537	1603
Hourly Exit Rate	1066	537	1603
Input Volume	1060	530	1590
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

58: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	0.9	0.8
Vehicles Exited	890	336	1226
Hourly Exit Rate	890	336	1226
Input Volume	900	340	1240
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	1602	1602
Hourly Exit Rate	1602	1602
Input Volume	1590	1590
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	554	554
Hourly Exit Rate	554	554
Input Volume	551	551
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	782	782
Hourly Exit Rate	782	782
Input Volume	790	790
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

62: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6

Vehicles Exited	104	104
Hourly Exit Rate	104	104
Input Volume	100	100
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

63: Performance by movement

Movement	EBT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.9	0.3	4.6
Vehicles Exited	1502	1161	2663
Hourly Exit Rate	1502	1161	2663
Input Volume	1491	1170	2660
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.6	7.6
Vehicles Exited	733	733
Hourly Exit Rate	733	733
Input Volume	740	740
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

65: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.5	4.3	3
Vehicles Exited	876	306	1182
Hourly Exit Rate	876	306	1182
Input Volume	874	300	1174

% of Volume	100	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	349	349
Hourly Exit Rate	349	349
Input Volume	350	350
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	459	459
Hourly Exit Rate	459	459
Input Volume	470	470
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	223	223
Hourly Exit Rate	223	223
Input Volume	220	220
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	161	161
Hourly Exit Rate	161	161
Input Volume	169	169
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	335	335
Hourly Exit Rate	335	335
Input Volume	320	320
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	692	692
Hourly Exit Rate	692	692
Input Volume	700	700
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

72: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.8	5.8
Vehicles Exited	606	606
Hourly Exit Rate	606	606
Input Volume	620	620
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.6	0	0.3
Total Del/Veh (s)	3.4	5.1	4.2
Vehicles Exited	669	676	1345
Hourly Exit Rate	669	676	1345
Input Volume	660	669	1329
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	1110	1110
Hourly Exit Rate	1110	1110
Input Volume	1100	1100
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

75: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.6	2.1	2.8

Vehicles Exited	643	665	1308
Hourly Exit Rate	643	665	1308
Input Volume	640	670	1311
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	1043	1043
Hourly Exit Rate	1043	1043
Input Volume	1050	1050
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

77: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.3	0.2
Total Del/Veh (s)	1.2	0.4	0.8
Vehicles Exited	406	365	771
Hourly Exit Rate	406	365	771
Input Volume	411	360	771
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	52	52
Hourly Exit Rate	52	52
Input Volume	51	51

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	57	57
Hourly Exit Rate	57	57
Input Volume	61	61
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	79	79
Hourly Exit Rate	79	79
Input Volume	80	80
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.7	0.7	1.3	1.6
Vehicles Exited	840	6	270	1116
Hourly Exit Rate	840	6	270	1116
Input Volume	840	8	260	1107
% of Volume	100	80	104	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	108	108
Hourly Exit Rate	108	108
Input Volume	110	110
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	690	690
Hourly Exit Rate	690	690
Input Volume	680	680
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.1	2.3	1.3
Vehicles Exited	915	162	1077
Hourly Exit Rate	915	162	1077
Input Volume	911	160	1071
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.7	0	0.5
Total Del/Veh (s)	1	1.3	1.1
Vehicles Exited	786	417	1203
Hourly Exit Rate	786	417	1203
Input Volume	800	420	1220
% of Volume	98	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.5	0	0.2
Total Del/Veh (s)	0.7	5.7	3.5
Vehicles Exited	620	798	1418
Hourly Exit Rate	620	798	1418
Input Volume	630	800	1430
% of Volume	98	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	682	682
Hourly Exit Rate	682	682
Input Volume	669	669
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4

Vehicles Exited	451	451
Hourly Exit Rate	451	451
Input Volume	449	449
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	547	547
Hourly Exit Rate	547	547
Input Volume	551	551
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.6	0	0.4
Total Del/Veh (s)	2.6	6.4	4.3
Vehicles Exited	747	611	1358
Hourly Exit Rate	747	611	1358
Input Volume	750	610	1359
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.8	1	1.4	1.7
Vehicles Exited	882	4	148	1034
Hourly Exit Rate	882	4	148	1034
Input Volume	880	4	150	1034

% of Volume	100	94	99	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

92: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.8	2.8	4.3
Vehicles Exited	642	666	1308
Hourly Exit Rate	642	666	1308
Input Volume	640	670	1311
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	581	581
Hourly Exit Rate	581	581
Input Volume	580	580
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	241	241
Hourly Exit Rate	241	241
Input Volume	240	240
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	135	135
Hourly Exit Rate	135	135
Input Volume	140	140
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

96: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.4	7.4
Vehicles Exited	1765	1765
Hourly Exit Rate	1765	1765
Input Volume	1760	1760
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	258	258
Hourly Exit Rate	258	258
Input Volume	260	260
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	569	569
Hourly Exit Rate	569	569
Input Volume	570	570
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	207	207
Hourly Exit Rate	207	207
Input Volume	210	210
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

100: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	907	907
Hourly Exit Rate	907	907
Input Volume	910	910
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	1.5	1.4

Vehicles Exited	890	271	1161
Hourly Exit Rate	890	271	1161
Input Volume	900	271	1170
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	608	608
Hourly Exit Rate	608	608
Input Volume	610	610
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

103: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	1050	1050
Hourly Exit Rate	1050	1050
Input Volume	1040	1040
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	837	837
Hourly Exit Rate	837	837
Input Volume	840	840

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	782	782
Hourly Exit Rate	782	782
Input Volume	780	780
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	1073	1073
Hourly Exit Rate	1073	1073
Input Volume	1050	1050
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	570	570
Hourly Exit Rate	570	570
Input Volume	570	570
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	557	557
Hourly Exit Rate	557	557
Input Volume	560	560
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

109: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	1.1	1.2
Vehicles Exited	1092	308	1400
Hourly Exit Rate	1092	308	1400
Input Volume	1090	310	1400
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	1079	1079
Hourly Exit Rate	1079	1079
Input Volume	1079	1079
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	907	907
Hourly Exit Rate	907	907
Input Volume	910	910
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	534	534
Hourly Exit Rate	534	534
Input Volume	520	520
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

113: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	1030	1030
Hourly Exit Rate	1030	1030
Input Volume	1030	1030
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5

Vehicles Exited	425	425
Hourly Exit Rate	425	425
Input Volume	440	440
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	417	417
Hourly Exit Rate	417	417
Input Volume	420	420
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.3	6.3
Vehicles Exited	976	976
Hourly Exit Rate	976	976
Input Volume	980	980
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

117: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	553	553
Hourly Exit Rate	553	553
Input Volume	559	559

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

118: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.5	0.8	0.6
Vehicles Exited	807	249	1056
Hourly Exit Rate	807	249	1056
Input Volume	810	250	1060
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	580	580
Hourly Exit Rate	580	580
Input Volume	580	580
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.4	6.4
Vehicles Exited	511	511
Hourly Exit Rate	511	511
Input Volume	510	510
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

121: Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	1.2	1.4
Vehicles Exited	776	298	1074
Hourly Exit Rate	776	298	1074
Input Volume	780	300	1080
% of Volume	100	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

122: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	84	84
Hourly Exit Rate	84	84
Input Volume	80	80
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	196	196
Hourly Exit Rate	196	196
Input Volume	190	190
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

124: NCC Performance by movement

Movement	WBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.4	0.7	1	1.2
Vehicles Exited	1051	34	1109	2194
Hourly Exit Rate	1051	34	1109	2194
Input Volume	1041	33	1100	2174
% of Volume	101	104	101	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

125: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	31	31
Hourly Exit Rate	31	31
Input Volume	31	31
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	1400	1400
Hourly Exit Rate	1400	1400
Input Volume	1400	1400
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

127: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.9	1.8	1.9

Vehicles Exited	960	438	1398
Hourly Exit Rate	960	438	1398
Input Volume	951	450	1401
% of Volume	101	97	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

128: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.4	2.5	3
Vehicles Exited	1140	844	1984
Hourly Exit Rate	1140	844	1984
Input Volume	1140	850	1990
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

129: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.8	1.3	1.7
Vehicles Exited	957	190	1147
Hourly Exit Rate	957	190	1147
Input Volume	950	190	1140
% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	1076	1076
Hourly Exit Rate	1076	1076
Input Volume	1080	1080

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	SW	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	469	469
Hourly Exit Rate	469	469
Input Volume	460	460
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.5	3.4	3.5
Vehicles Exited	644	667	1311
Hourly Exit Rate	644	667	1311
Input Volume	640	670	1311
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3	4.3	3.6
Vehicles Exited	411	330	741
Hourly Exit Rate	411	330	741
Input Volume	410	330	740
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

134: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	796	796
Hourly Exit Rate	796	796
Input Volume	790	790
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.4	6.4
Vehicles Exited	1541	1541
Hourly Exit Rate	1541	1541
Input Volume	1550	1550
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

136: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	29	29
Hourly Exit Rate	29	29
Input Volume	31	31
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

137: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	31	31
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

138: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	722	722
Hourly Exit Rate	722	722
Input Volume	720	720
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	816	816
Hourly Exit Rate	816	816
Input Volume	830	830
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

140: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2

Vehicles Exited	1148	1148
Hourly Exit Rate	1148	1148
Input Volume	1140	1140
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

142: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	34	34
Hourly Exit Rate	34	34
Input Volume	31	31
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	72	72
Hourly Exit Rate	72	72
Input Volume	80	80
% of Volume	91	91
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.4	0.2
Total Del/Veh (s)	3.1	2	2.6
Vehicles Exited	480	433	913
Hourly Exit Rate	480	433	913
Input Volume	480	430	910

% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.8	2.3	2
Vehicles Exited	1094	505	1599
Hourly Exit Rate	1094	505	1599
Input Volume	1090	500	1590
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

146: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	1.4	1
Vehicles Exited	849	227	1076
Hourly Exit Rate	849	227	1076
Input Volume	860	220	1080
% of Volume	99	103	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

147: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	0.5	0.9
Vehicles Exited	302	238	540
Hourly Exit Rate	302	238	540
Input Volume	300	240	540
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

148: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	125	125
Hourly Exit Rate	125	125
Input Volume	120	120
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

149: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	622	622
Hourly Exit Rate	622	622
Input Volume	620	620
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	120	120
Hourly Exit Rate	120	120
Input Volume	121	121
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

151: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	406	406
Hourly Exit Rate	406	406
Input Volume	411	411
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

152: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	620	620
Hourly Exit Rate	620	620
Input Volume	620	620
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	6.2	1.5	3.9
Vehicles Exited	795	777	1572
Hourly Exit Rate	795	777	1572
Input Volume	790	770	1560
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	4.3	2.6

Vehicles Exited	1109	1050	2159
Hourly Exit Rate	1109	1050	2159
Input Volume	1100	1040	2140
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

156: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.7	3.1	2.4
Vehicles Exited	545	619	1164
Hourly Exit Rate	545	619	1164
Input Volume	530	620	1149
% of Volume	103	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

157: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	245	245
Hourly Exit Rate	245	245
Input Volume	240	240
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

159: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	765	765
Hourly Exit Rate	765	765
Input Volume	770	770

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

163: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	884	884
Hourly Exit Rate	884	884
Input Volume	880	880
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

164: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	41	41
Hourly Exit Rate	41	41
Input Volume	41	41
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

165: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.1	0	0.1
Total Del/Veh (s)	0.7	9.2	4.9
Vehicles Exited	792	764	1556
Hourly Exit Rate	792	764	1556
Input Volume	790	770	1560
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	31	31
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	43	43
Hourly Exit Rate	43	43
Input Volume	41	41
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	38	38
Hourly Exit Rate	38	38
Input Volume	41	41
% of Volume	93	93
Denied Entry Before	0	0
Denied Entry After	0	0

172: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	287	287
Hourly Exit Rate	287	287
Input Volume	280	280
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	74	74
Hourly Exit Rate	74	74
Input Volume	70	70
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	240	240
Hourly Exit Rate	240	240
Input Volume	240	240
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9

Vehicles Exited	82	82
Hourly Exit Rate	82	82
Input Volume	80	80
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

177: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	142	142
Hourly Exit Rate	142	142
Input Volume	140	140
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

178: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	378	378
Hourly Exit Rate	378	378
Input Volume	380	380
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

179: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	796	796
Hourly Exit Rate	796	796
Input Volume	800	800

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	107	107
Hourly Exit Rate	107	107
Input Volume	110	110
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	106	106
Hourly Exit Rate	106	106
Input Volume	110	110
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	585	585
Hourly Exit Rate	585	585
Input Volume	580	580
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	72	72
Hourly Exit Rate	72	72
Input Volume	70	70
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

184: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	1400	1400
Hourly Exit Rate	1400	1400
Input Volume	1400	1400
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

185: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	300	300
Hourly Exit Rate	300	300
Input Volume	290	290
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

186: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.1	0.1
Total Del/Veh (s)	0.7	0	0.3
Vehicles Exited	71	76	147
Hourly Exit Rate	71	76	147
Input Volume	80	80	159
% of Volume	89	96	92
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

187: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	53	53
Hourly Exit Rate	53	53
Input Volume	50	50
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

188: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	479	479
Hourly Exit Rate	479	479
Input Volume	480	480
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

189: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.4	1.7	2.7

Vehicles Exited	302	238	540
Hourly Exit Rate	302	238	540
Input Volume	300	240	541
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

190: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.3	0.4	2.1
Vehicles Exited	303	239	542
Hourly Exit Rate	303	239	542
Input Volume	300	240	541
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

191: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.6	0.8	2.4
Vehicles Exited	303	238	541
Hourly Exit Rate	303	238	541
Input Volume	300	240	541
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

192: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.6	1.6	3.3
Vehicles Exited	301	239	540
Hourly Exit Rate	301	239	540
Input Volume	300	240	541

% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

193: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.5	1.7	2.5
Vehicles Exited	237	301	538
Hourly Exit Rate	237	301	538
Input Volume	240	300	541
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

194: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.1	0.1	0.1	0.8
Vehicles Exited	847	1	378	1226
Hourly Exit Rate	847	1	378	1226
Input Volume	860	1	380	1240
% of Volume	98	133	100	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

195: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	379	379
Hourly Exit Rate	379	379
Input Volume	380	380
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	1028	1028
Hourly Exit Rate	1028	1028
Input Volume	1030	1030
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	536	536
Hourly Exit Rate	536	536
Input Volume	530	530
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	1162	1162
Hourly Exit Rate	1162	1162
Input Volume	1170	1170
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

500: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.3	0	0.2
Total Del/Veh (s)	1.5	2.2	1.8
Vehicles Exited	890	620	1510
Hourly Exit Rate	890	620	1510
Input Volume	890	620	1511
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	36.3
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	25
Denied Entry Before	2
Denied Entry After	1

SimTraffic Report
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Queuing and Blocking Report
Baseline 9/3/2014

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	111	204	222	208	125	162	184	217	221	56	127	176	103	120
Average Queue (ft)	33	107	113	102	45	64	70	98	118	14	49	71	40	46
95th Queue (ft)	80	174	185	180	90	126	146	176	195	40	101	140	80	95
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														

Storage Bay Dist (ft)	530				410	580				530	330		300									
Storage Blk Time (%)																						
Queuing Penalty (veh)																						

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	L	T	T	TR
Maximum Queue (ft)	73	208	253	280	127	116	146	155	132	159	174	58	94	113	118	94	84	52	124	86	87	60
Average Queue (ft)	20	97	134	154	45	23	79	90	50	70	83	12	39	49	53	39	32	6	44	38	32	14
95th Queue (ft)	54	179	225	252	96	80	132	141	106	130	144	39	78	90	98	74	70	28	96	69	70	41
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923		3946	3946	3946
Upstream Blk Time (%)																						
Queuing Penalty (veh)																						
Storage Bay Dist (ft)	715				355	920	920	920				750	800						550			
Storage Blk Time (%)				0																		
Queuing Penalty (veh)				0																		

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	308	357	140	380	220	144	251	246	336	392	362
Average Queue (ft)	166	160	17	207	69	55	136	129	207	187	188
95th Queue (ft)	282	299	74	343	188	115	217	209	353	434	312
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				0							
Queuing Penalty (veh)				0							
Storage Bay Dist (ft)	250		90		160	185			290		
Storage Blk Time (%)	3	2	0	38	0		2		11	0	
Queuing Penalty (veh)	12	3	1	38	0		1		28	0	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	127	182	241	196
Average Queue (ft)	50	83	94	66
95th Queue (ft)	103	152	205	167

Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	411	122	3	145
Average Queue (ft)	209	50	0	54
95th Queue (ft)	365	99	3	112
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		530		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	L	T	T	T	>
Maximum Queue (ft)	110	129	183	117	126	208	146	140	151	122	121	128	123	143	154	118	102
Average Queue (ft)	50	68	95	46	57	80	60	67	65	44	46	52	54	66	75	29	40
95th Queue (ft)	95	111	160	92	101	158	119	118	122	97	96	108	103	117	131	80	80
Link Distance (ft)			1111		1063	1063		737	737	737	737			1038	1038	1038	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300	300		300			700					300	550				650
Storage Blk Time (%)																	
Queuing Penalty (veh)																	

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR

Maximum Queue (ft)	174	251	390	412	401	315	152	173	166	182	161	118	175	257	327	333	353	259	267	309	287	300	328
Average Queue (ft)	74	110	224	240	233	130	79	92	96	108	75	29	88	115	176	197	180	128	156	191	173	177	178
95th Queue (ft)	137	245	385	395	397	281	136	145	147	163	143	88	150	199	274	296	296	245	248	278	259	262	283
Link Distance (ft)			4930	4930	4930				3381	3381	3381				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)																							
Queuing Penalty (veh)																							
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)		0	4		4	0							0	0	3		6	2					
Queuing Penalty (veh)		0	9		16	0							0	0	10		18	5					

Intersection: 8: Coffee Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	126	151	142	106	109	61	198	75	69	102	68	112	95	108
Average Queue (ft)	46	72	60	31	47	11	89	20	13	31	16	49	31	36
95th Queue (ft)	98	121	120	75	85	38	163	52	44	75	48	89	73	82
Link Distance (ft)		860	860		880	880		902	902			952	952	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	500			500			600			600	650			650
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	178	209	332	277	178	184	116	182	177	147	204	240	190	173	106	188	158	203
Average Queue (ft)	69	122	196	156	56	68	46	111	103	53	76	137	98	76	44	99	40	86
95th Queue (ft)	157	190	290	247	143	134	94	165	158	114	171	211	164	143	84	159	102	151
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)			0			0					0	0						
Queuing Penalty (veh)			1			0					0	0						

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	164	293	294	231	227	176	188	231	191	383	118	161	104
Average Queue (ft)	74	176	182	128	140	70	85	115	59	214	46	56	26
95th Queue (ft)	141	268	277	200	207	135	156	201	139	334	100	119	74
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								2			0	8	0
Queuing Penalty (veh)								1			0	7	0

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	120	72	95	238	293	48	111	194	215	144	115	197	230
Average Queue (ft)	43	17	39	82	144	7	47	95	113	74	38	90	130
95th Queue (ft)	93	50	74	187	239	27	93	164	183	126	83	159	205
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		
Storage Blk Time (%)					0								
Queuing Penalty (veh)					0								

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	164	180	163	136	58	149	136	28	42	182	214	199	201	64	306	247	158
Average Queue (ft)	48	100	78	28	19	79	32	2	11	83	124	108	94	20	174	113	67
95th Queue (ft)	123	163	136	83	48	127	86	14	34	155	183	173	169	51	264	219	119
Link Distance (ft)		1375	1375	1375		1274	1274	1274			2052	2052	2052		512	512	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)															0		

Queuing Penalty (veh) 0

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	370	558	134	487	210	253	399	234	527	160
Average Queue (ft)	173	275	39	224	94	58	197	158	189	91
95th Queue (ft)	303	468	108	405	221	145	333	251	406	178
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			3	47	0		5	9	19	1
Queuing Penalty (veh)			13	70	0		3	30	76	3

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	54	102	95	85	84	55	99	17	2	51	15	14
Average Queue (ft)	15	36	45	30	32	13	30	1	0	11	1	1
95th Queue (ft)	43	78	78	65	67	38	69	8	2	37	7	6
Link Distance (ft)		1163			1019			1058	1058		414	414
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300	300		300	300			300		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	217	222	215	75	84	104	141
Average Queue (ft)	120	116	107	23	24	36	59
95th Queue (ft)	188	191	175	60	62	81	104
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							

Queuing Penalty (veh)					
Storage Bay Dist (ft)	300	400			150
Storage Blk Time (%)	0			0	0
Queuing Penalty (veh)	0			0	0

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	152	160	192	197	146	114	108	136	146	141	157	138	42	114	150	148	94	96	95	27	66	116	114	148
Average Queue (ft)	81	92	95	108	49	46	20	55	68	73	80	47	7	23	73	81	32	29	35	4	16	54	44	67
95th Queue (ft)	135	142	163	173	121	88	66	109	118	122	134	110	25	83	133	137	69	70	72	19	47	98	94	124
Link Distance (ft)			1066	1066	1066				1607	1607	1607	1607				1090	1090	1090				1218	1218	
Upstream Blk Time (%)																								
Queuing Penalty (veh)																								
Storage Bay Dist (ft)	800	800				1000	970	970					850	720	720				1000	520	520			720
Storage Blk Time (%)																								
Queuing Penalty (veh)																								

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	136	84	148	89	94
Average Queue (ft)	69	19	64	34	42
95th Queue (ft)	117	58	122	73	74
Link Distance (ft)		2884	5348	826	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	300				300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 18: Bentley & NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L	T	R
Maximum Queue (ft)	87	167	164	78	99	194	189	31	71	92	33	51	88	96
Average Queue (ft)	30	67	77	24	31	78	78	3	22	30	4	8	30	34

95th Queue (ft)	70	128	138	56	72	154	147	17	54	71	19	31	70	74
Link Distance (ft)		7926	7926			2369	2369			1462			1179	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	680			580	770			720	200		300	150		200
Storage Blk Time (%)													0	
Queuing Penalty (veh)													0	

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	113	140	160	70	196	158	114	123	102	63	80
Average Queue (ft)	45	58	72	23	108	65	51	46	45	21	37
95th Queue (ft)	91	113	133	56	168	127	92	87	85	51	67
Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)					0				1	0	0
Queuing Penalty (veh)					0				1	0	0

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	349	259	286	390	254	368	355	198	480	415
Average Queue (ft)	70	155	149	97	197	104	204	203	64	276	234
95th Queue (ft)	125	273	235	193	326	193	320	314	144	415	362
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	33	47	1	0	2			1	0		
Queuing Penalty (veh)	143	147	3	0	2			7	0		

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB

Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	98	139	185	134	153	166	76	112	195	110	122	162	119
Average Queue (ft)	41	72	80	60	66	78	26	58	83	68	53	71	41
95th Queue (ft)	82	127	150	112	124	143	62	97	153	117	101	129	85
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)				0	0				23	5	2	3	0
Queuing Penalty (veh)				0	0				77	16	4	6	0

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	178	137	142	83	83	46	89	117	245	256	82	215	288	327
Average Queue (ft)	80	65	62	28	27	8	31	40	138	144	31	111	135	165
95th Queue (ft)	146	113	110	65	65	28	67	90	215	224	68	187	237	267
Link Distance (ft)		5602			2174	2174			1386	1386			2186	2186
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	225		225	225			225	400			300	400		
Storage Blk Time (%)	0		0							0			0	
Queuing Penalty (veh)	0		0							0			0	

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	41	60	48	77	66	62	159	139	69	122	102	44
Average Queue (ft)	6	12	12	28	19	14	60	38	19	57	29	6
95th Queue (ft)	25	37	32	62	51	44	118	94	52	105	75	27
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	119	187	149	106	107	108	36	129	126	150	86	82	160	170	116	118
Average Queue (ft)	49	92	68	32	43	47	6	59	41	60	37	23	71	86	32	59
95th Queue (ft)	97	147	123	74	81	92	26	109	92	121	72	56	128	143	89	100
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	600				700	600				600
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 25: Roselle & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	>	L	T	T	>
Maximum Queue (ft)	64	34	206	63	87	106	122	143	104	91	102	125	119	28
Average Queue (ft)	17	5	107	14	35	44	45	56	15	23	29	55	47	2
95th Queue (ft)	46	22	177	43	71	88	99	117	61	63	72	104	97	15
Link Distance (ft)			1221		1142	1142		671	671			1058	1058	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	500	500		500			400			400	550			550
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 27: NCC & Albers Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T	R	L	T	R
Maximum Queue (ft)	203	201	99	98	47	97	102	92	94	59	49	193	128	39	240	7
Average Queue (ft)	101	105	31	33	7	32	50	35	39	14	9	93	60	5	99	0
95th Queue (ft)	173	173	74	75	29	75	86	74	77	43	34	163	103	22	203	7
Link Distance (ft)			1146	1146				2966	2966			2755			1386	1386
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	920	920			580	720	720			580	200		300	200		

Storage Blk Time (%)	0	1
Queuing Penalty (veh)	0	0

Intersection: 28: NCC & SMITH

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	120	60	75	18	46	91	92	38	63	80	72
Average Queue (ft)	47	9	21	1	9	33	31	4	18	23	31
95th Queue (ft)	91	33	56	10	30	75	71	23	46	60	60
Link Distance (ft)		5348	5348			4038	4038		1307	1066	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	870			670	650			650			630
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 29: NCC & SR 120/108

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	89	107	54	9
Average Queue (ft)	32	22	9	0
95th Queue (ft)	75	71	36	9
Link Distance (ft)	2713	1095	1548	1548
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	73	97	62	60	106	100	124	120	46	67	128	99	97	41
Average Queue (ft)	26	38	13	17	47	35	48	53	6	18	56	33	34	8
95th Queue (ft)	62	74	43	43	88	81	100	105	28	51	103	79	76	30
Link Distance (ft)		882		1227		1038	1038	1038			2422	2422	2422	

Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	300		300		300				300	300			300
Storage Blk Time (%)													
Queuing Penalty (veh)													

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	119	90	85	98	78	206	239	55	51	85	163	162	59
Average Queue (ft)	47	34	28	32	26	94	108	12	7	35	63	79	15
95th Queue (ft)	93	69	62	71	64	171	197	40	32	71	135	143	46
Link Distance (ft)		429		638		834	834				757	757	757
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	300		300		300			400	450	450			
Storage Blk Time (%)						0							
Queuing Penalty (veh)						0							

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	37	55	60	46	47	109	103	38	39	70	75	27
Average Queue (ft)	6	15	13	11	8	27	33	3	8	18	19	2
95th Queue (ft)	27	44	40	34	33	76	85	20	30	55	56	15
Link Distance (ft)		1261		2050		952	952			1343	1343	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	56	59	40	69	26	97	107	20	36	63	69	7

Average Queue (ft)	13	14	7	21	5	25	19	1	6	10	14	0
95th Queue (ft)	42	42	27	54	19	71	62	12	23	37	46	5
Link Distance (ft)		752		1080		1259	1259			902	902	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	64	73	48	57	67	105	137	47	84	137	128	42
Average Queue (ft)	16	22	9	17	19	36	47	5	27	36	46	6
95th Queue (ft)	47	55	34	49	52	81	111	27	60	98	102	25
Link Distance (ft)		636		496		370	370			1357	1357	1357
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	75	76	161	139	76	86	111
Average Queue (ft)	27	27	59	45	30	18	39
95th Queue (ft)	60	61	126	100	65	61	93
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Davis & Claribel Realigned (N)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	66	69	16	22
Average Queue (ft)	24	24	1	1
95th Queue (ft)	56	54	9	11
Link Distance (ft)	662	702		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			50	50
Storage Blk Time (%)			0	0
Queuing Penalty (veh)			0	0

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	112	70	198	68	140	142	97	84	156
Average Queue (ft)	47	18	90	18	53	66	29	31	67
95th Queue (ft)	89	50	159	50	108	122	69	71	125
Link Distance (ft)		1110	417		1218	1218		1028	1028
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	T	T	R	L	L	T	T
Maximum Queue (ft)	75	61	112	148	42	24	77	76	95
Average Queue (ft)	23	20	41	53	9	2	23	15	35
95th Queue (ft)	57	47	91	115	33	14	54	51	80
Link Distance (ft)	437		1878	1878				841	841
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		300			300	890	890		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 40: NCC

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LT	LT	LT	TR	LT	TR
Maximum Queue (ft)	36	32	46	30	40	23
Average Queue (ft)	3	2	5	2	5	1
95th Queue (ft)	18	15	26	16	25	9
Link Distance (ft)	3014	3427	634	634	1034	1034
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 56:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 57:

Movement	B299	B299
Directions Served	T	
Maximum Queue (ft)	21	10
Average Queue (ft)	1	0
95th Queue (ft)	13	8
Link Distance (ft)	377	377
Upstream Blk Time (%)		
Queuing Penalty (veh)		

Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 58:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 63:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 65: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)

Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 81:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 84: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 85: Bend

Movement	WB
Directions Served	T

Maximum Queue (ft)	2
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	826
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 90: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	111
Average Queue (ft)	4
95th Queue (ft)	67
Link Distance (ft)	586
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 91:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 109:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 118: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 121:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 124: NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 127: NCC SPUI & NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)

Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 129:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 145:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 146:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)

95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 165: Bend

Movement	WB
Directions Served	T
Maximum Queue (ft)	805
Average Queue (ft)	29
95th Queue (ft)	821
Link Distance (ft)	7926
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 194:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary
Network wide Queuing Penalty: 752

SimTraffic Report
Page 0

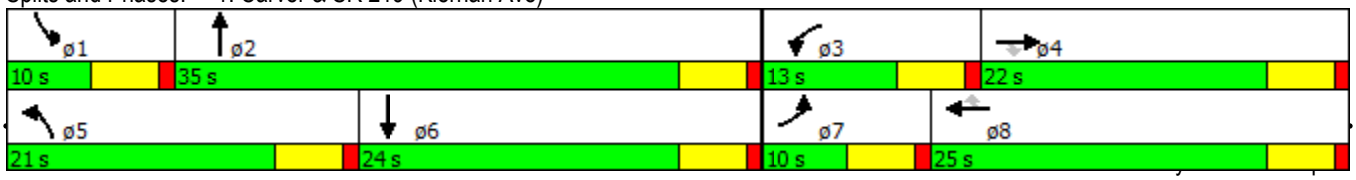
1: Carver & SR 219 (Kiernan Ave)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	620	120	70	800	50	180	60	20	20	120	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	10.0	22.0	22.0	13.0	25.0	25.0	21.0	35.0		10.0	24.0	
Total Split (%)	12.5%	27.5%	27.5%	16.3%	31.3%	31.3%	26.3%	43.8%		12.5%	30.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 67.6
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & SR 219 (Kiernan Ave)



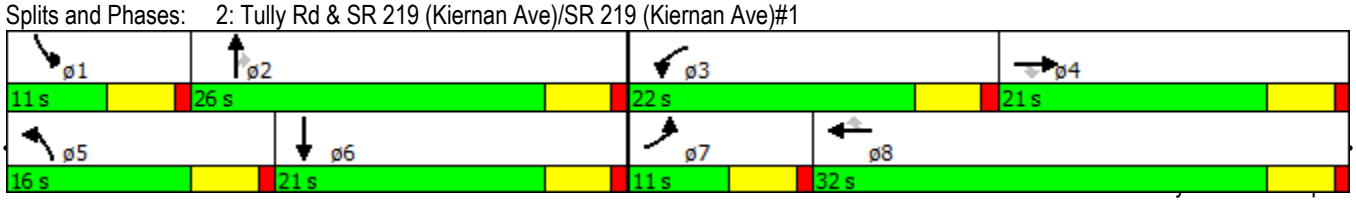
2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	410	220	210	750	10	120	70	120	30	100	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	660		415	400		400	300		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			3702			3753			4028	
Travel Time (s)		32.5			45.9			51.2			54.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	
Total Split (s)	11.0	21.0	21.0	22.0	32.0	32.0	16.0	26.0	26.0	11.0	21.0	
Total Split (%)	13.8%	26.3%	26.3%	27.5%	40.0%	40.0%	20.0%	32.5%	32.5%	13.8%	26.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 66.5
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1



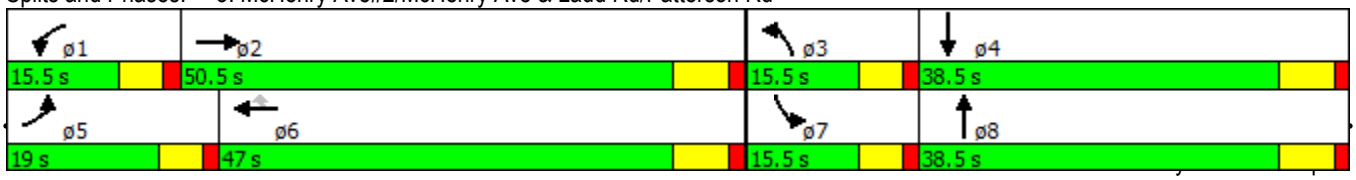
3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	220	40	10	450	130	20	300	10	70	440	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		800
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	38.5		15.5	38.5	38.5	15.5	38.5		15.5	38.5	
Total Split (s)	19.0	50.5		15.5	47.0	47.0	15.5	38.5		15.5	38.5	
Total Split (%)	15.8%	42.1%		12.9%	39.2%	39.2%	12.9%	32.1%		12.9%	32.1%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd



4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	210	10	320	120	0	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		555	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	30.0		40.0			40.0
Total Split (%)	42.9%		57.1%			57.1%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 42.1
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

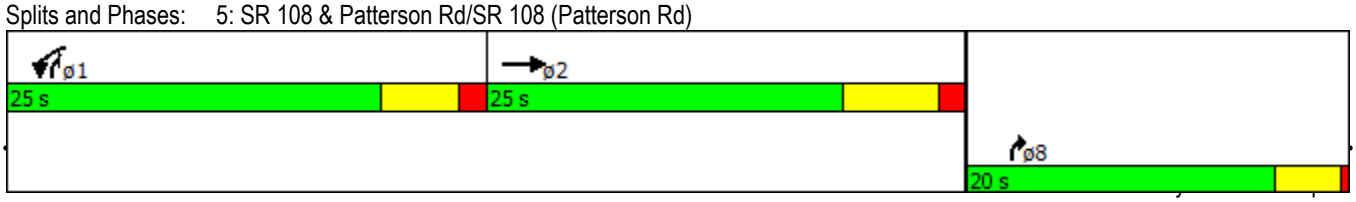
5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	290	10	210	590	0	120	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		60		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	9%	9%	9%	9%	13%	13%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	25.0		25.0				20.0
Total Split (%)	35.7%		35.7%				29%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 49.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)



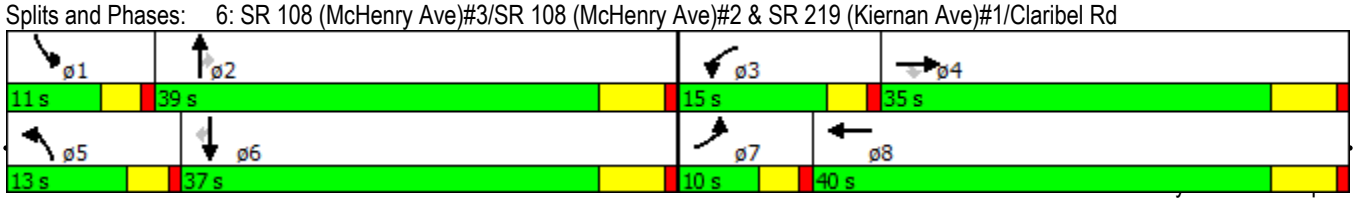
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	260	110	230	750	70	90	350	90	40	500	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	775		660	975		0	260		540	420		535
Storage Lanes	2		1	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			50	
Link Distance (ft)		1550			2638			2021			602	
Travel Time (s)		19.2			32.7			30.6			8.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.0	35.0	35.0	9.0	35.0		9.0	28.0	28.0	9.0	37.0	37.0
Total Split (s)	10.0	35.0	35.0	15.0	40.0		13.0	39.0	39.0	11.0	37.0	37.0
Total Split (%)	10.0%	35.0%	35.0%	15.0%	40.0%		13.0%	39.0%	39.0%	11.0%	37.0%	37.0%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0		3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0		0.0	-2.0	-2.0	0.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 86.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd

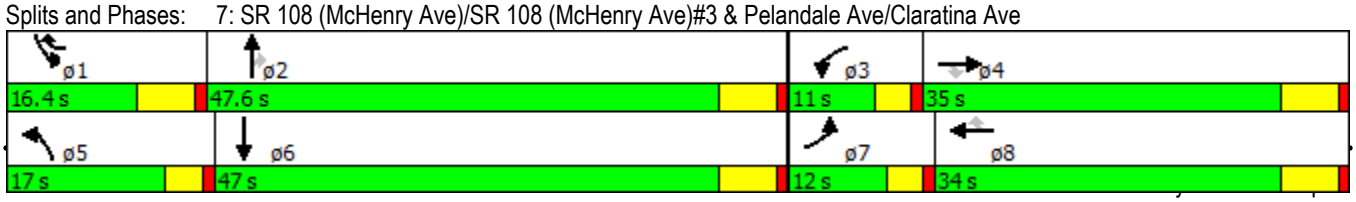


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	590	180	140	1110	370	300	690	80	100	560	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		350	300		350	225		200	500		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4998			2233			3932			1832	
Travel Time (s)		75.7			33.8			67.0			31.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.0	33.7	33.7	9.0	32.7	10.7	9.0	43.7	43.7	10.7	43.7	
Total Split (s)	12.0	35.0	35.0	11.0	34.0	16.4	17.0	47.6	47.6	16.4	47.0	
Total Split (%)	10.9%	31.8%	31.8%	10.0%	30.9%	14.9%	15.5%	43.3%	43.3%	14.9%	42.7%	
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 89.3
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave



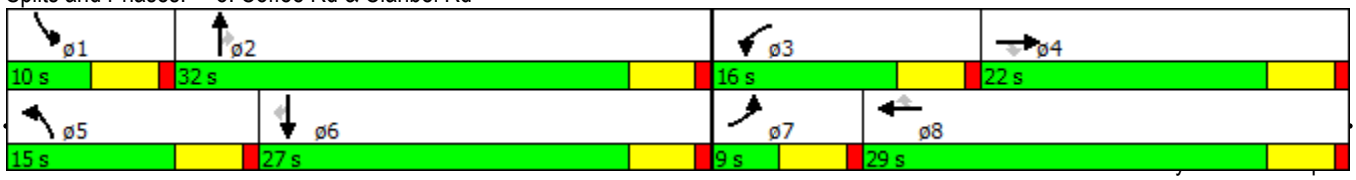
8: Coffee Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	280	120	90	700	10	120	110	100	20	270	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		250	420		240	260		260	110		260
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2636			2696			1576			2024	
Travel Time (s)		32.7			33.4			23.9			30.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	9.0	22.0	22.0	16.0	29.0	29.0	15.0	32.0	32.0	10.0	27.0	27.0
Total Split (%)	11.3%	27.5%	27.5%	20.0%	36.3%	36.3%	18.8%	40.0%	40.0%	12.5%	33.8%	33.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 66.3
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd & Claribel Rd



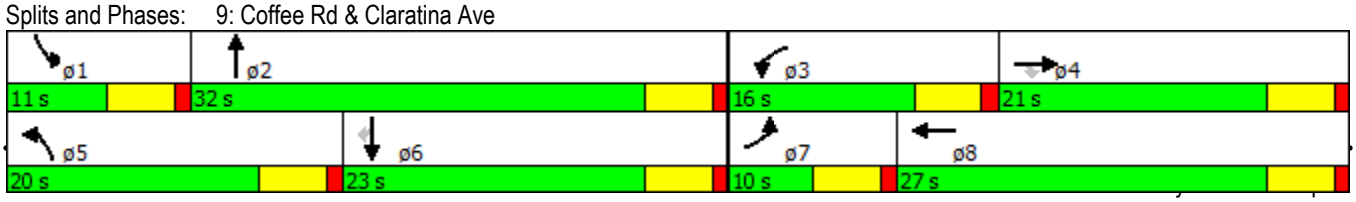
9: Coffee Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	350	220	100	940	30	380	210	60	30	270	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		0	300		0	300		300
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1474			1750			1337			1336	
Travel Time (s)		22.3			21.7			20.3			20.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	21.0
Total Split (s)	10.0	21.0	21.0	16.0	27.0		20.0	32.0		11.0	23.0	23.0
Total Split (%)	12.5%	26.3%	26.3%	20.0%	33.8%		25.0%	40.0%		13.8%	28.8%	28.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min		None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 69.4
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Coffee Rd & Claratina Ave



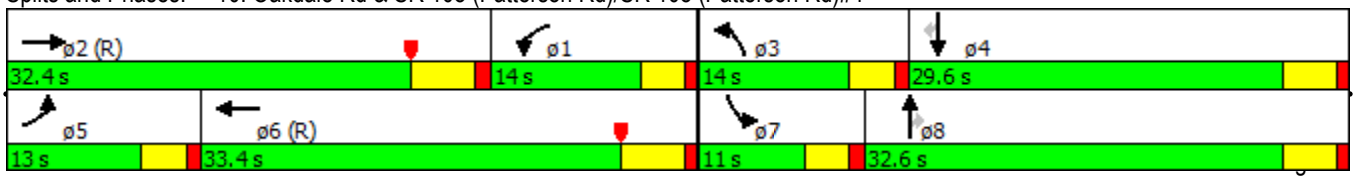
10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	340	60	240	560	40	120	70	170	50	110	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		675	200		0	150		75
Storage Lanes	1		0	2		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3272			2623			2223	
Travel Time (s)		42.0			63.7			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	13.0	32.4		14.0	33.4		14.0	32.6	32.6	11.0	29.6	29.6
Total Split (%)	14.4%	36.0%		15.6%	37.1%		15.6%	36.2%	36.2%	12.2%	32.9%	32.9%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	-0.6	-0.6	0.0	-0.6	-0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4



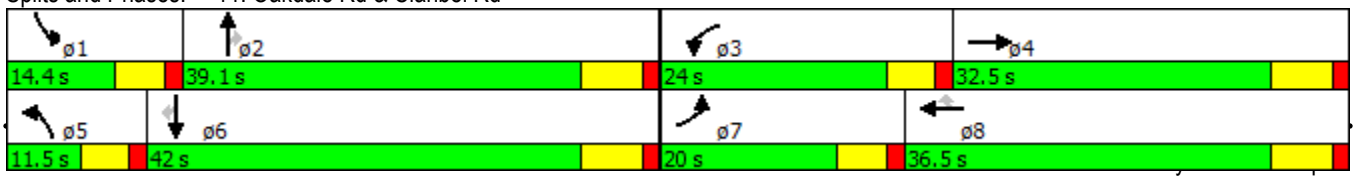
11: Oakdale Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	280	50	230	470	50	50	300	130	60	490	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	170		240	315		0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2604			1936			1599			4042	
Travel Time (s)		32.3			24.0			24.2			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.5	32.5		11.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	32.5
Total Split (s)	20.0	32.5		24.0	36.5	36.5	11.5	39.1	39.1	14.4	42.0	42.0
Total Split (%)	18.2%	29.5%		21.8%	33.2%	33.2%	10.5%	35.5%	35.5%	13.1%	38.2%	38.2%
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 97.1
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



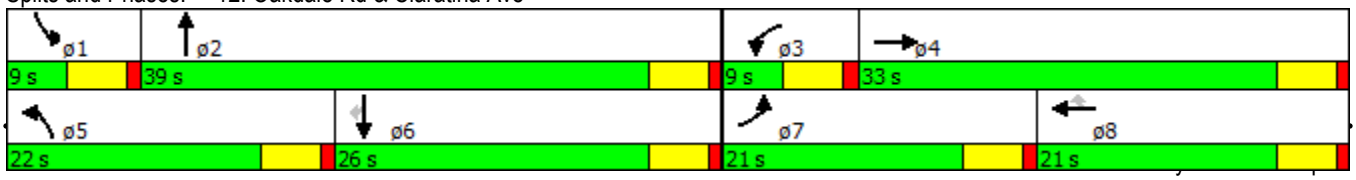
12: Oakdale Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	170	200	10	320	10	520	370	20	10	640	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	500		0	300		300
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			30			45			45	
Link Distance (ft)		1394			1855			2104			2250	
Travel Time (s)		17.3			42.2			31.9			34.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0
Total Split (s)	21.0	33.0		9.0	21.0	21.0	22.0	39.0		9.0	26.0	26.0
Total Split (%)	23.3%	36.7%		10.0%	23.3%	23.3%	24.4%	43.3%		10.0%	28.9%	28.9%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 70.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Oakdale Rd & Claratina Ave



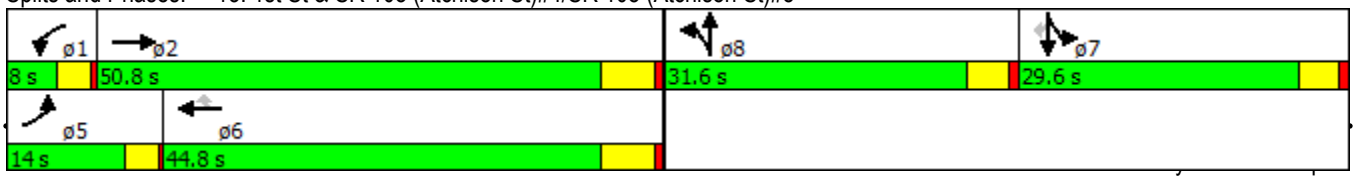
13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	400	20	20	490	200	50	190	40	160	130	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	775		0	75		150	250		0	175		100
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3283			3348			1265			1732	
Travel Time (s)		64.0			65.2			28.8			39.4	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	23%	23%	23%	23%	23%	23%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Detector Phase	5	2		1	6	6	8	8		7	7	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	29.6
Total Split (s)	14.0	50.8		8.0	44.8	44.8	31.6	31.6		29.6	29.6	29.6
Total Split (%)	11.7%	42.3%		6.7%	37.3%	37.3%	26.3%	26.3%		24.7%	24.7%	24.7%
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	-0.6	-0.6		-0.6	-0.6	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104.4
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5



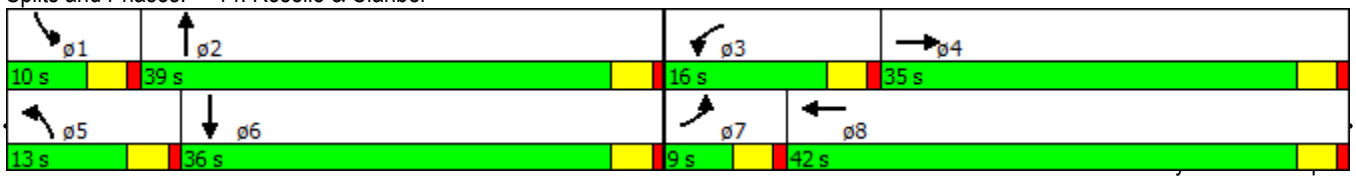
14: Roselle & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	260	150	150	380	60	110	270	110	60	340	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		0	300		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2444			2646			2348			2512	
Travel Time (s)		30.3			32.8			35.6			38.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	9.0	35.0		16.0	42.0		13.0	39.0		10.0	36.0	
Total Split (%)	9.0%	35.0%		16.0%	42.0%		13.0%	39.0%		10.0%	36.0%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 96.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 14: Roselle & Claribel



15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	420	140	240	620	100	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		100	200		0	150
Storage Lanes		1	1		1	1
Taper Length (ft)			60		60	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	1853			2021	1620	
Travel Time (s)	36.1			30.6	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	21.0	21.0
Total Split (s)	28.0	28.0	20.0	48.0	22.0	22.0
Total Split (%)	40.0%	40.0%	28.6%	68.6%	31.4%	31.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	Min	Min	Min	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 57
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

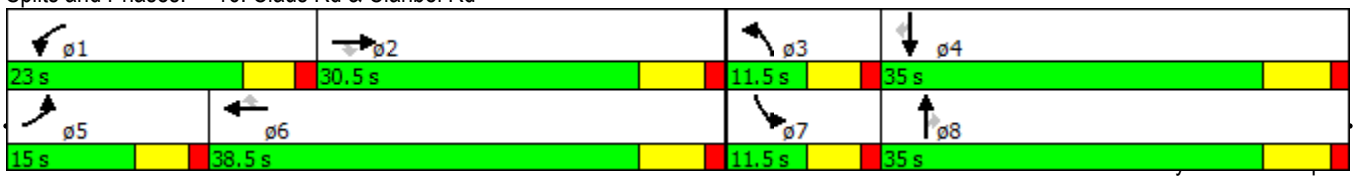
16: Claus Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	190	20	240	320	30	20	320	200	20	420	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		75	150		75	250		150	250		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		2195			2805			2202			2448	
Travel Time (s)		27.2			34.8			27.3			37.1	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.5	29.5	29.5	11.5	29.5	29.5	11.5	30.5	30.5	11.5	30.5	30.5
Total Split (s)	15.0	30.5	30.5	23.0	38.5	38.5	11.5	35.0	35.0	11.5	35.0	35.0
Total Split (%)	15.0%	30.5%	30.5%	23.0%	38.5%	38.5%	11.5%	35.0%	35.0%	11.5%	35.0%	35.0%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 82.8
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & Claribel Rd



17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	130	210	160	40	60	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		45	
Link Distance (ft)		2026	5411		1944	
Travel Time (s)		25.1	67.1		29.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	21%	21%	21%	21%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

18: Bentley & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	250	10	20	330	20	20	20	10	20	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		20	0		20
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		2761			2529			1526			1244	
Travel Time (s)		62.8			31.4			23.1			18.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

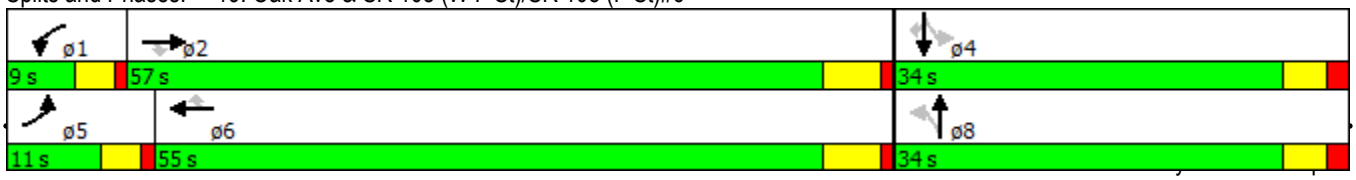
19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	610	50	40	560	70	90	60	20	110	60	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		200	250		200	250		0	100		75
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		4958			2639			1311			1681	
Travel Time (s)		84.5			60.0			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	19%	2%	2%	19%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		4
Detector Phase	5	2	2	1	6	6	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3	25.3	9.0	29.3	29.3	32.0	32.0		34.0	34.0	34.0
Total Split (s)	11.0	57.0	57.0	9.0	55.0	55.0	34.0	34.0		34.0	34.0	34.0
Total Split (%)	11.0%	57.0%	57.0%	9.0%	55.0%	55.0%	34.0%	34.0%		34.0%	34.0%	34.0%
Yellow Time (s)	3.0	4.3	4.3	3.0	4.3	4.3	3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3	-1.3	0.0	-1.3	-1.3	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 65.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

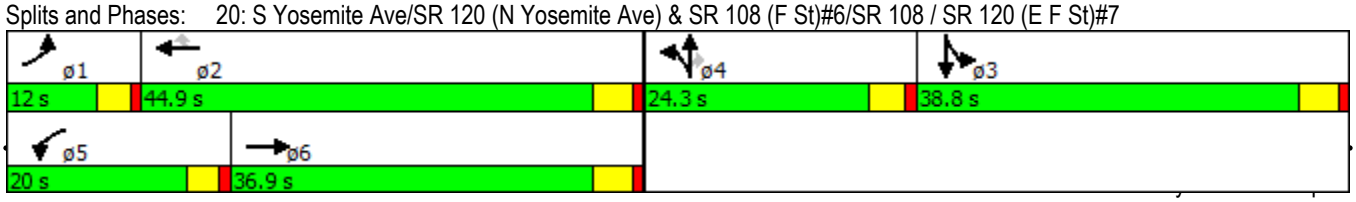


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	480	60	170	450	350	100	290	180	350	320	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2792			2562			1983			5906	
Travel Time (s)		76.1			58.2			45.1			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	19%	19%	19%	19%	19%	19%	20%	20%	20%	20%	20%	20%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	12.0	36.9		20.0	44.9	44.9	24.3	24.3	24.3	38.8	38.8	
Total Split (%)	10.0%	30.8%		16.7%	37.4%	37.4%	20.3%	20.3%	20.3%	32.3%	32.3%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-0.6		0.0	-0.6	-0.6		-0.2	-0.2		-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 118.9
Natural Cycle: 115
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7



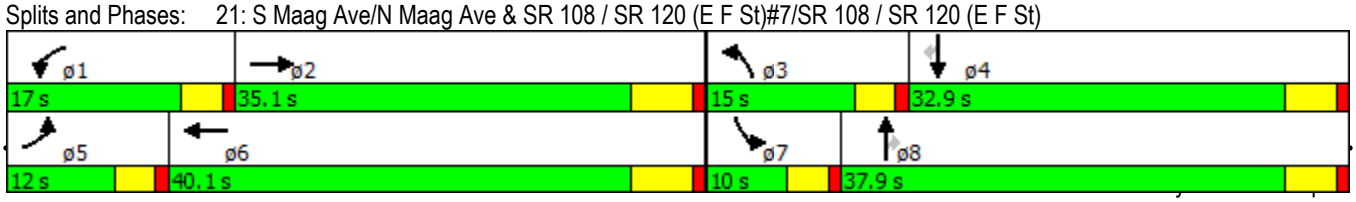
21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	500	170	150	620	40	260	110	80	30	150	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2028			2745			1922			2964	
Travel Time (s)		39.5			53.5			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	19%	2%	2%	19%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	12.0	35.1		17.0	40.1		15.0	37.9	37.9	10.0	32.9	32.9
Total Split (%)	12.0%	35.1%		17.0%	40.1%		15.0%	37.9%	37.9%	10.0%	32.9%	32.9%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	-0.9	-0.9	0.0	-0.9	-0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 78.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)



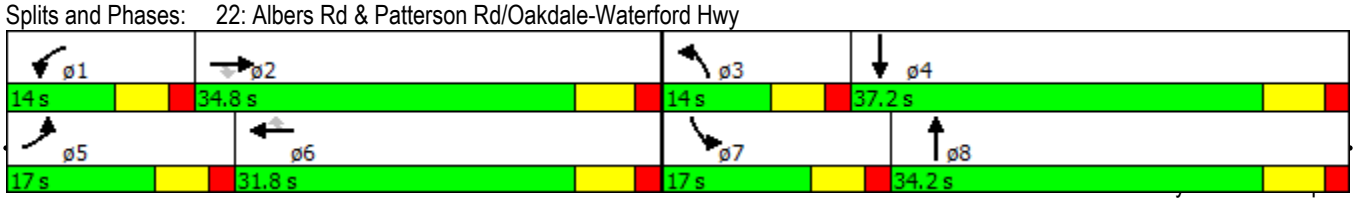
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	30	30	10	120	140	70	580	10	90	700	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		300
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5607			2285			1544			2026	
Travel Time (s)		69.5			28.3			19.1			25.1	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	21%	21%	21%	21%	21%	21%	16%	16%	16%	16%	16%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	29.5	29.5	14.0	29.5	29.5	14.0	29.5		14.0	29.5	
Total Split (s)	17.0	34.8	34.8	14.0	31.8	31.8	14.0	34.2		17.0	37.2	
Total Split (%)	17.0%	34.8%	34.8%	14.0%	31.8%	31.8%	14.0%	34.2%		17.0%	37.2%	
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5		4.0	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5	-2.5	-2.0	-2.5	-2.5	-2.0	-2.5		-2.0	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 80.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



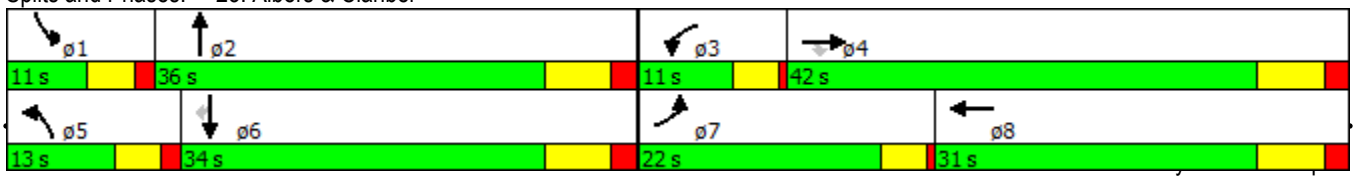
23: Albers & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	40	60	30	140	10	70	410	30	10	520	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	18%	18%	18%	18%	18%	18%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	22.0	42.0	42.0	11.0	31.0		13.0	36.0		11.0	34.0	34.0
Total Split (%)	22.0%	42.0%	42.0%	11.0%	31.0%		13.0%	36.0%		11.0%	34.0%	34.0%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 81.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel



101: SR 219 (Kiernan Ave)#1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	480	80	0	970	80	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3702			1550			380			330	
Travel Time (s)		45.9			19.2			8.6			7.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

103: Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	390	0	0	1050	0	0	0	50	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2638			2636			394			400	
Travel Time (s)		32.7			32.7			9.0			9.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.25
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

109: Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	400	0	0	690	0	0	0	30	0	0	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2696			2604			289			323	
Travel Time (s)		33.4			32.3			6.6			7.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

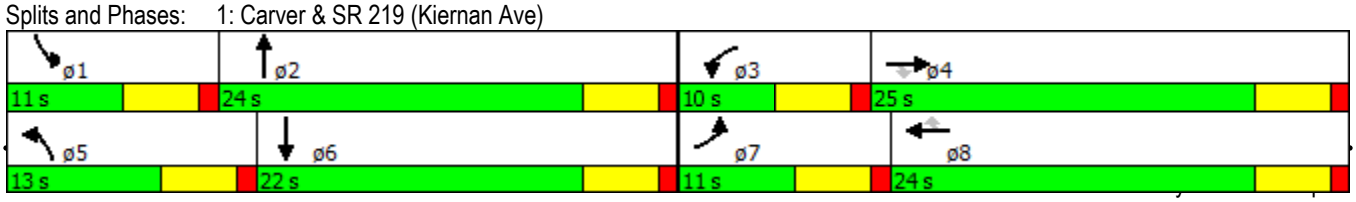
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	950	150	40	900	30	80	90	80	50	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		3332			2622			2505			2443	
Travel Time (s)		41.3			32.5			38.0			37.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	11.0	25.0	25.0	10.0	24.0	24.0	13.0	24.0		11.0	22.0	
Total Split (%)	15.7%	35.7%	35.7%	14.3%	34.3%	34.3%	18.6%	34.3%		15.7%	31.4%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 48.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & SR 219 (Kiernan Ave)

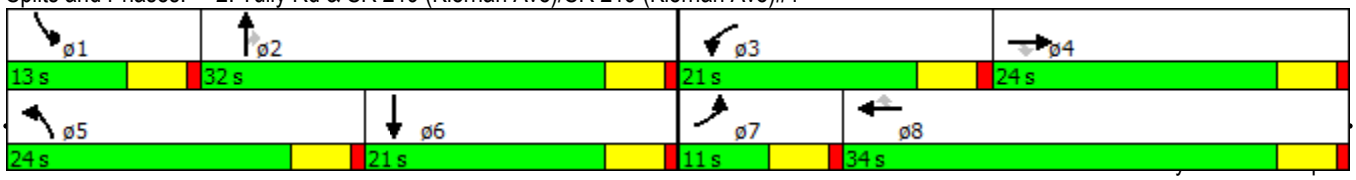


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	830	200	220	680	30	270	160	180	60	140	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	660		415	400		400	300		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			3702			3753			4028	
Travel Time (s)		32.5			45.9			51.2			54.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	
Total Split (s)	11.0	24.0	24.0	21.0	34.0	34.0	24.0	32.0	32.0	13.0	21.0	
Total Split (%)	12.2%	26.7%	26.7%	23.3%	37.8%	37.8%	26.7%	35.6%	35.6%	14.4%	23.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 83.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1

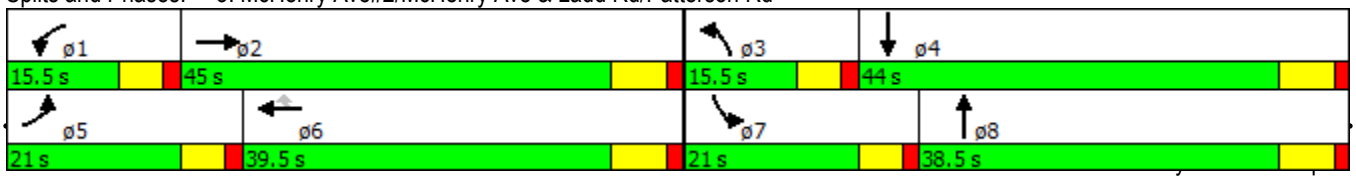


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	330	20	10	340	110	40	450	10	200	450	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		800
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	38.5		15.5	38.5	38.5	15.5	38.5		15.5	38.5	
Total Split (s)	21.0	45.0		15.5	39.5	39.5	15.5	38.5		21.0	44.0	
Total Split (%)	17.5%	37.5%		12.9%	32.9%	32.9%	12.9%	32.1%		17.5%	36.7%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 101.3
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

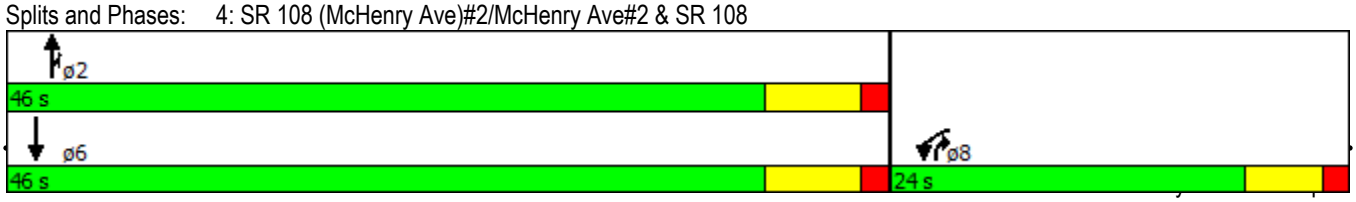


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	130	10	490	340	0	480
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		555	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	0				0	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	24.0		46.0			46.0
Total Split (%)	34.3%		65.7%			65.7%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 46.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

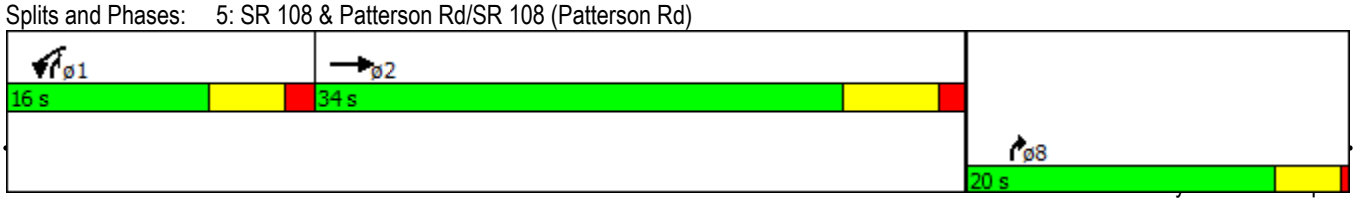


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	530	10	130	460	0	340	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		0		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	8%	8%	8%	8%	9%	9%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	34.0		16.0				20.0
Total Split (%)	48.6%		22.9%				29%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 59.7
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

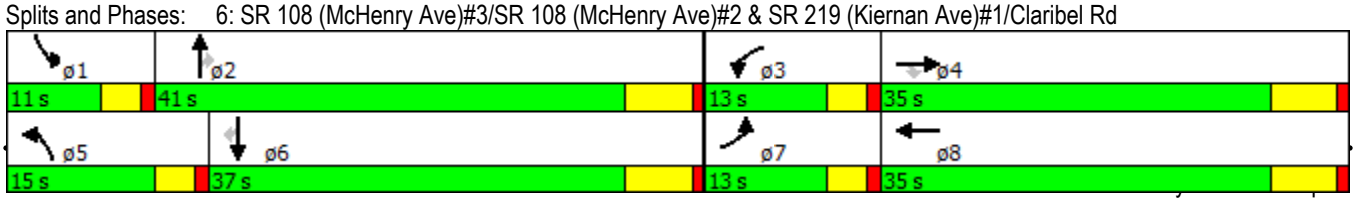


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	580	340	170	520	50	180	660	310	40	450	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	775		660	975		0	260		540	420		535
Storage Lanes	2		1	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			50	
Link Distance (ft)		1550			2638			2021			602	
Travel Time (s)		19.2			32.7			30.6			8.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.0	35.0	35.0	9.0	35.0		9.0	28.0	28.0	9.0	37.0	37.0
Total Split (s)	13.0	35.0	35.0	13.0	35.0		15.0	41.0	41.0	11.0	37.0	37.0
Total Split (%)	13.0%	35.0%	35.0%	13.0%	35.0%		15.0%	41.0%	41.0%	11.0%	37.0%	37.0%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0		3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0		0.0	-2.0	-2.0	0.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 79.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd

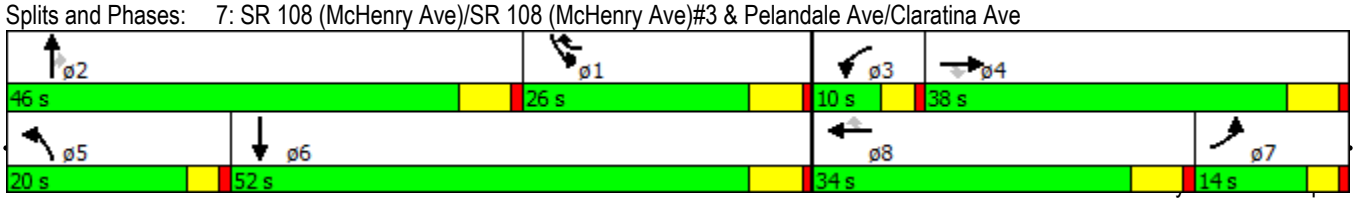


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	1250	280	150	740	250	330	860	140	460	1160	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		350	300		350	225		200	500		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		5000			2044			3932			1838	
Travel Time (s)		75.8			31.0			67.0			31.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.0	33.7	33.7	9.0	32.7	10.7	9.0	43.7	43.7	10.7	43.7	
Total Split (s)	14.0	38.0	38.0	10.0	34.0	26.0	20.0	46.0	46.0	26.0	52.0	
Total Split (%)	11.7%	31.7%	31.7%	8.3%	28.3%	21.7%	16.7%	38.3%	38.3%	21.7%	43.3%	
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 113.7
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

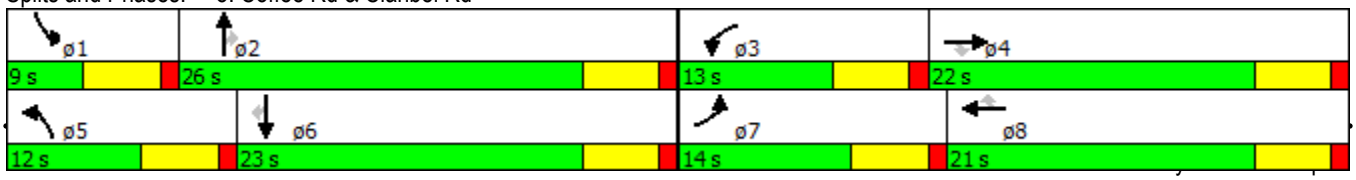


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	550	170	110	530	10	80	310	270	20	170	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		250	420		240	260		260	110		260
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2636			2696			1576			2024	
Travel Time (s)		32.7			33.4			23.9			30.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	14.0	22.0	22.0	13.0	21.0	21.0	12.0	26.0	26.0	9.0	23.0	23.0
Total Split (%)	20.0%	31.4%	31.4%	18.6%	30.0%	30.0%	17.1%	37.1%	37.1%	12.9%	32.9%	32.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 57.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd & Claribel Rd

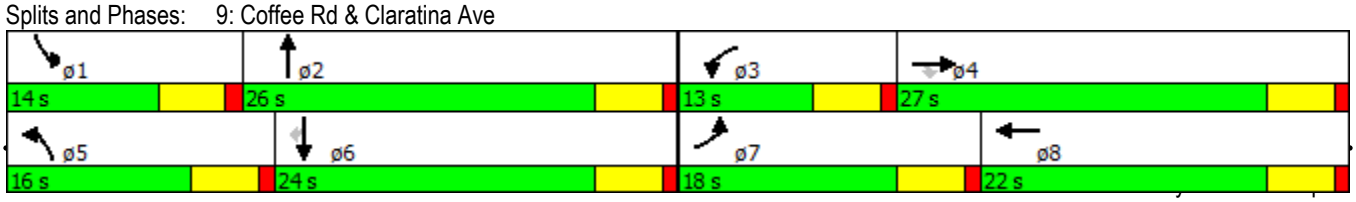


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	360	990	400	80	620	40	290	420	140	100	210	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		0	300		0	300		300
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1474			1750			1337			1336	
Travel Time (s)		22.3			21.7			20.3			20.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	21.0
Total Split (s)	18.0	27.0	27.0	13.0	22.0		16.0	26.0		14.0	24.0	24.0
Total Split (%)	22.5%	33.8%	33.8%	16.3%	27.5%		20.0%	32.5%		17.5%	30.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min		None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 72
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Coffee Rd & Claratina Ave

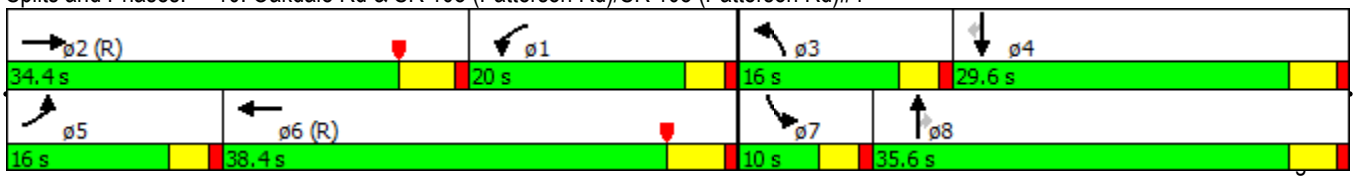


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	620	130	400	380	30	140	130	250	50	110	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		675	200		0	150		75
Storage Lanes	1		0	2		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3199			2623			2223	
Travel Time (s)		42.0			62.3			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	16.0	34.4		20.0	38.4		16.0	35.6	35.6	10.0	29.6	29.6
Total Split (%)	16.0%	34.4%		20.0%	38.4%		16.0%	35.6%	35.6%	10.0%	29.6%	29.6%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	0.6	0.6	0.0	0.6	0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	5.2	5.2	4.0	5.2	5.2
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

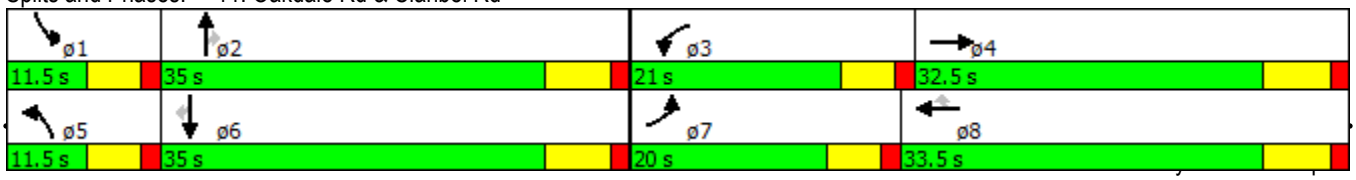


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	440	70	240	390	60	60	480	290	60	430	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	170		240	315		0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2604			1936			1626			4042	
Travel Time (s)		32.3			24.0			24.6			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	8%	8%	8%	8%	8%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.5	32.5		11.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	32.5
Total Split (s)	20.0	32.5		21.0	33.5	33.5	11.5	35.0	35.0	11.5	35.0	35.0
Total Split (%)	20.0%	32.5%		21.0%	33.5%	33.5%	11.5%	35.0%	35.0%	11.5%	35.0%	35.0%
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 89.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd

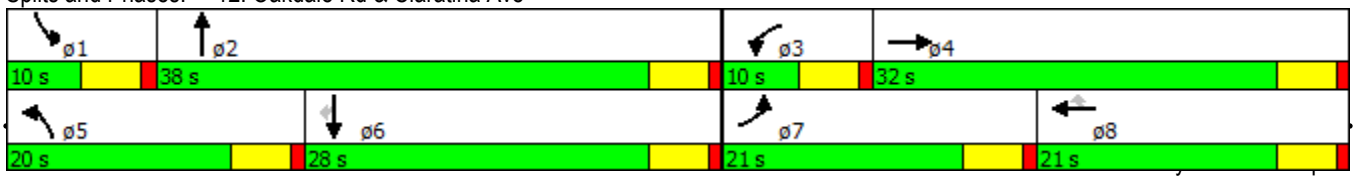


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	440	610	20	290	20	340	750	40	30	600	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	500		0	300		300
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			30			45			45	
Link Distance (ft)		1420			1381			2104			2250	
Travel Time (s)		17.6			31.4			31.9			34.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0
Total Split (s)	21.0	32.0		10.0	21.0	21.0	20.0	38.0		10.0	28.0	28.0
Total Split (%)	23.3%	35.6%		11.1%	23.3%	23.3%	22.2%	42.2%		11.1%	31.1%	31.1%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 70.8
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Oakdale Rd & Claratina Ave

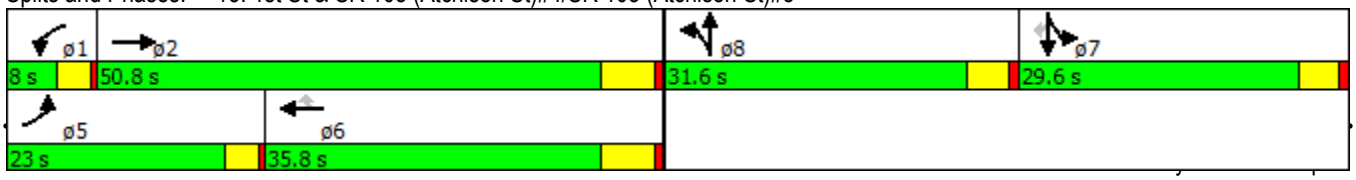


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	550	30	30	410	120	60	220	30	240	180	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	775		0	75		150	250		0	175		100
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3516			3342			1265			1737	
Travel Time (s)		68.5			65.1			28.8			39.5	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	16%	16%	16%	16%	16%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Detector Phase	5	2		1	6	6	8	8		7	7	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	29.6
Total Split (s)	23.0	50.8		8.0	35.8	35.8	31.6	31.6		29.6	29.6	29.6
Total Split (%)	19.2%	42.3%		6.7%	29.8%	29.8%	26.3%	26.3%		24.7%	24.7%	24.7%
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	0.6	0.6		0.6	0.6	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	5.2	5.2		5.2	5.2	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 111.7
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

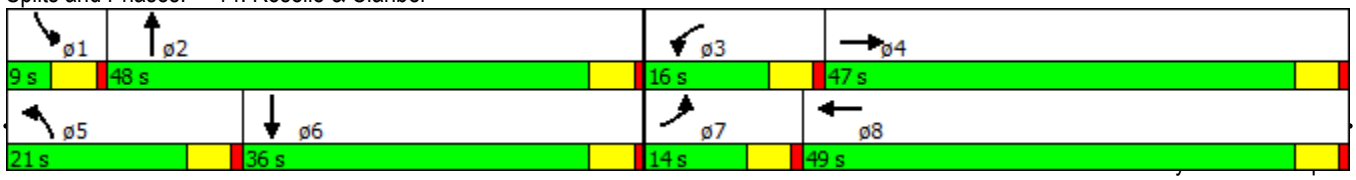


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	370	170	130	360	70	190	370	160	50	270	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		0	300		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2114			2858			2348			2512	
Travel Time (s)		48.0			65.0			53.4			57.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	14.0	47.0		16.0	49.0		21.0	48.0		9.0	36.0	
Total Split (%)	11.7%	39.2%		13.3%	40.8%		17.5%	40.0%		7.5%	30.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

Splits and Phases: 14: Roselle & Claribel

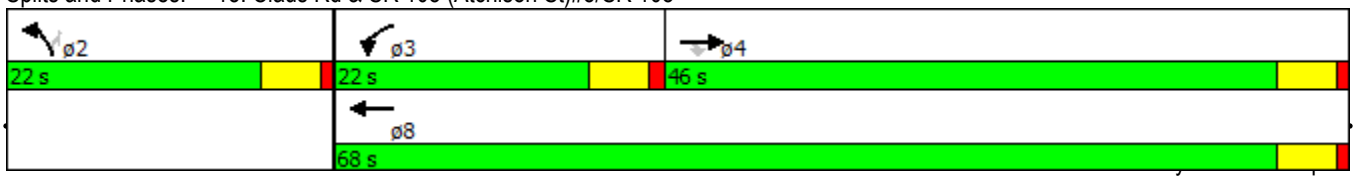


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	610	170	220	450	110	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		100	200		0	150
Storage Lanes		1	1		1	1
Taper Length (ft)			60		0	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	1855			2012	1620	
Travel Time (s)	36.1			30.5	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	21.0	21.0
Total Split (s)	46.0	46.0	22.0	68.0	22.0	22.0
Total Split (%)	51.1%	51.1%	24.4%	75.6%	24.4%	24.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 72.9
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

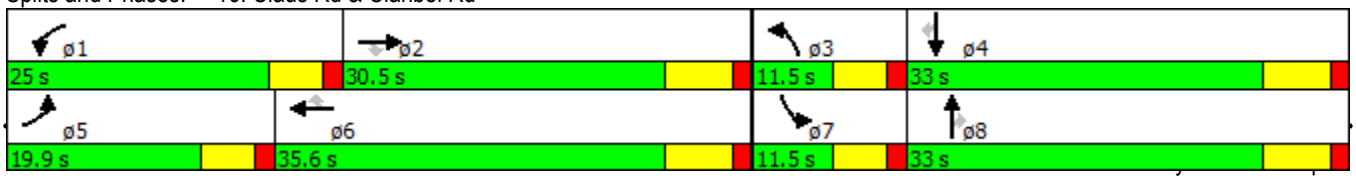


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	230	40	280	200	30	30	420	300	30	410	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		75	150		75	250		150	250		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1995			2805			2202			2448	
Travel Time (s)		24.7			34.8			27.3			37.1	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.5	29.5	29.5	11.5	29.5	29.5	11.5	30.5	30.5	11.5	30.5	30.5
Total Split (s)	19.9	30.5	30.5	25.0	35.6	35.6	11.5	33.0	33.0	11.5	33.0	33.0
Total Split (%)	19.9%	30.5%	30.5%	25.0%	35.6%	35.6%	11.5%	33.0%	33.0%	11.5%	33.0%	33.0%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 86.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & Claribel Rd



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	340	200	230	70	60	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	0				0	
Link Speed (mph)		55	55		45	
Link Distance (ft)		2026	5517		1944	
Travel Time (s)		25.1	68.4		29.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	16%	16%	16%	16%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	330	20	20	270	30	10	30	10	30	40	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		20	0		20
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	0			0			0			0		
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2761			2529			1526			1244	
Travel Time (s)		34.2			31.4			23.1			18.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

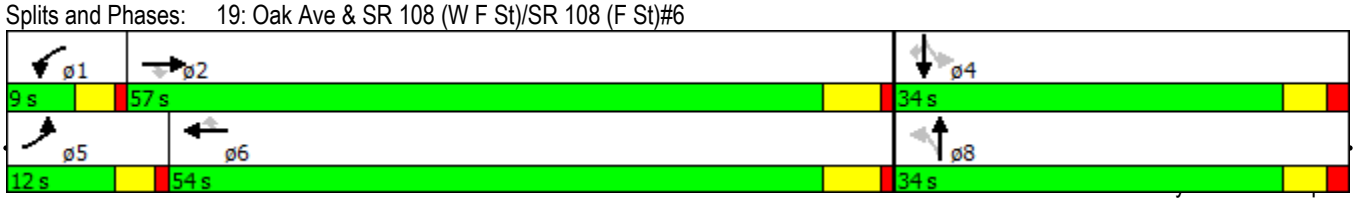
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	750	40	30	640	70	90	50	60	90	40	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		200	250		200	250		0	100		75
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		4965			2649			1311			1681	
Travel Time (s)		84.6			60.2			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	13%	2%	2%	13%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		4
Detector Phase	5	2	2	1	6	6	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3	25.3	9.0	29.3	29.3	32.0	32.0		34.0	34.0	34.0
Total Split (s)	12.0	57.0	57.0	9.0	54.0	54.0	34.0	34.0		34.0	34.0	34.0
Total Split (%)	12.0%	57.0%	57.0%	9.0%	54.0%	54.0%	34.0%	34.0%		34.0%	34.0%	34.0%
Yellow Time (s)	3.0	4.3	4.3	3.0	4.3	4.3	3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3	-1.3	0.0	-1.3	-1.3	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 66
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

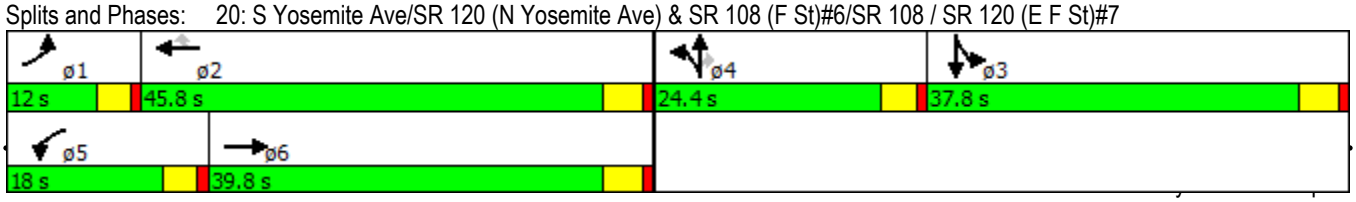


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	640	70	140	520	410	100	370	200	360	360	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			0		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2796			2596			2033			5906	
Travel Time (s)		76.3			59.0			46.2			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	15%	15%	15%	15%	15%	15%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	12.0	39.8		18.0	45.8	45.8	24.4	24.4	24.4	37.8	37.8	
Total Split (%)	10.0%	33.2%		15.0%	38.2%	38.2%	20.3%	20.3%	20.3%	31.5%	31.5%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.6		0.0	0.6	0.6		0.2	0.2		0.6	
Total Lost Time (s)	4.0	5.2		4.0	5.2	5.2		4.4	4.4		5.2	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 119.2
Natural Cycle: 115
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

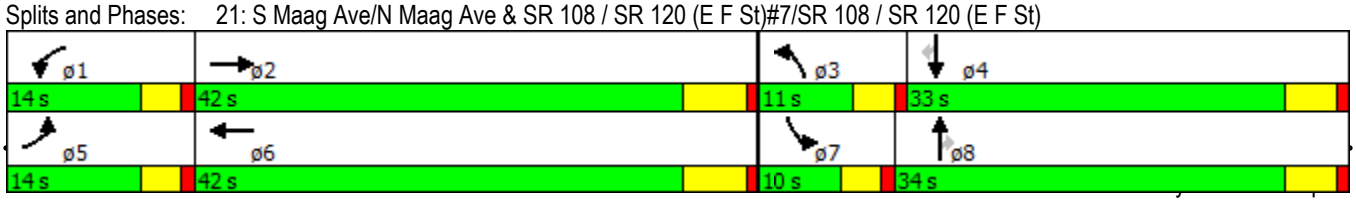


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	720	180	110	740	50	170	170	170	50	120	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2039			2740			1922			2964	
Travel Time (s)		39.7			53.4			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	13%	2%	2%	13%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	14.0	42.0		14.0	42.0		11.0	34.0	34.0	10.0	33.0	33.0
Total Split (%)	14.0%	42.0%		14.0%	42.0%		11.0%	34.0%	34.0%	10.0%	33.0%	33.0%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	0.9	0.9	0.0	0.9	0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	5.8	5.8	4.0	5.8	5.8
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 72
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

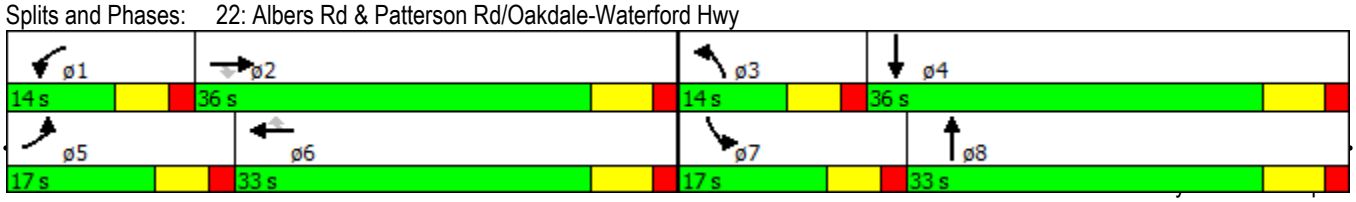


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	170	60	10	40	120	30	700	10	140	520	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		300
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5715			2210			1544			2026	
Travel Time (s)		70.8			27.4			19.1			25.1	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	16%	16%	16%	16%	16%	16%	12%	12%	12%	12%	12%	12%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	29.5	29.5	14.0	29.5	29.5	14.0	29.5		14.0	29.5	
Total Split (s)	17.0	36.0	36.0	14.0	33.0	33.0	14.0	33.0		17.0	36.0	
Total Split (%)	17.0%	36.0%	36.0%	14.0%	33.0%	33.0%	14.0%	33.0%		17.0%	36.0%	
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5		4.0	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5	-2.5	-2.0	-2.5	-2.5	-2.0	-2.5		-2.0	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 79.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

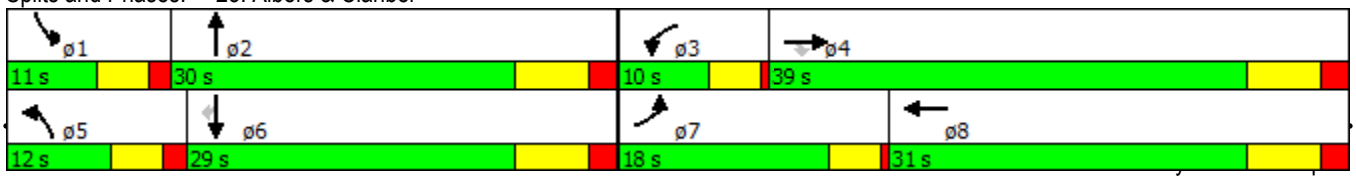


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	100	110	20	60	10	70	530	30	10	410	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	18.0	39.0	39.0	10.0	31.0		12.0	30.0		11.0	29.0	29.0
Total Split (%)	20.0%	43.3%	43.3%	11.1%	34.4%		13.3%	33.3%		12.2%	32.2%	32.2%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 63.6
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1070	0	0	890	0	0	0	110	0	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	0			0			0			0		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3702			1550			380			330	
Travel Time (s)		45.9			19.2			8.6			7.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	850	80	0	730	0	0	0	0	0	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	0			0			0			0		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2638			2636			394			400	
Travel Time (s)		32.7			32.7			9.0			9.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	760	80	0	620	0	0	0	0	0	0	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	0			0			0			0		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2696			2604			289			323	
Travel Time (s)		33.4			32.3			6.6			7.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

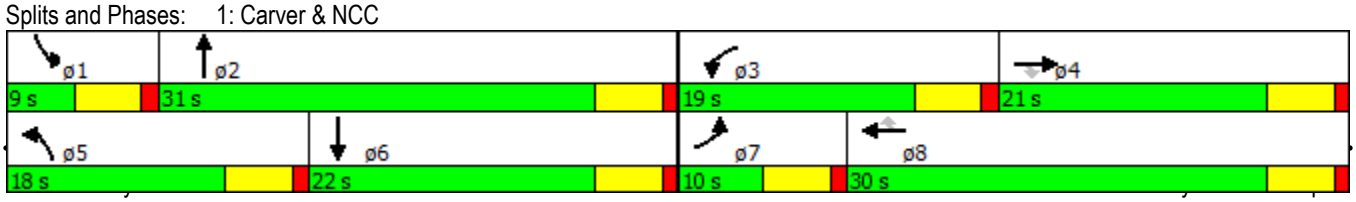
1: Carver & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	640	110	190	990	50	180	60	20	20	120	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	10.0	21.0	21.0	19.0	30.0	30.0	18.0	31.0		9.0	22.0	
Total Split (%)	12.5%	26.3%	26.3%	23.8%	37.5%	37.5%	22.5%	38.8%		11.3%	27.5%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 71.4
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC



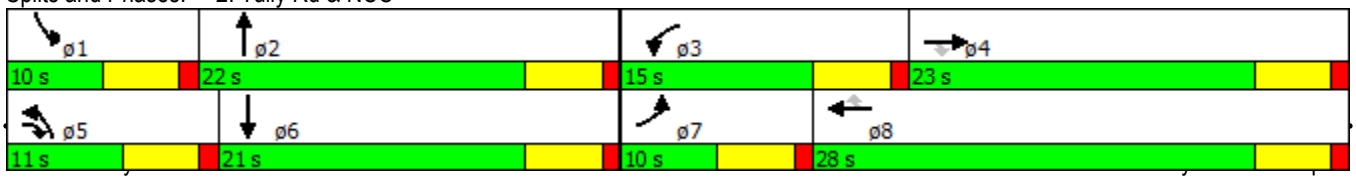
2: Tully Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	450	200	390	1090	20	90	70	120	30	100	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	10.0	23.0	11.0	15.0	28.0	28.0	11.0	22.0		10.0	21.0	
Total Split (%)	14.3%	32.9%	15.7%	21.4%	40.0%	40.0%	15.7%	31.4%		14.3%	30.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 52.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



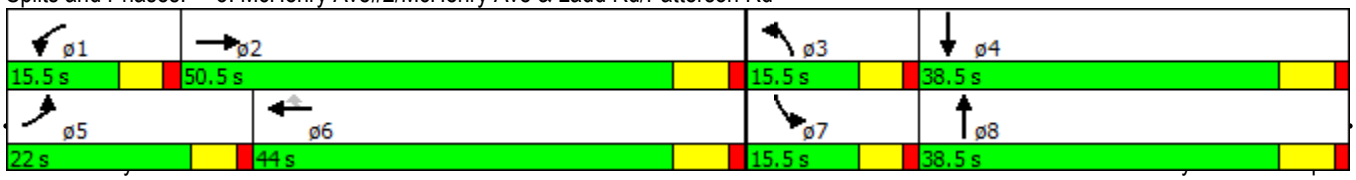
3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	70	40	10	370	130	20	290	10	70	410	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	38.5		15.5	38.5	38.5	15.5	38.5		15.5	38.5	
Total Split (s)	22.0	50.5		15.5	44.0	44.0	15.5	38.5		15.5	38.5	
Total Split (%)	18.3%	42.1%		12.9%	36.7%	36.7%	12.9%	32.1%		12.9%	32.1%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 92.4
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd



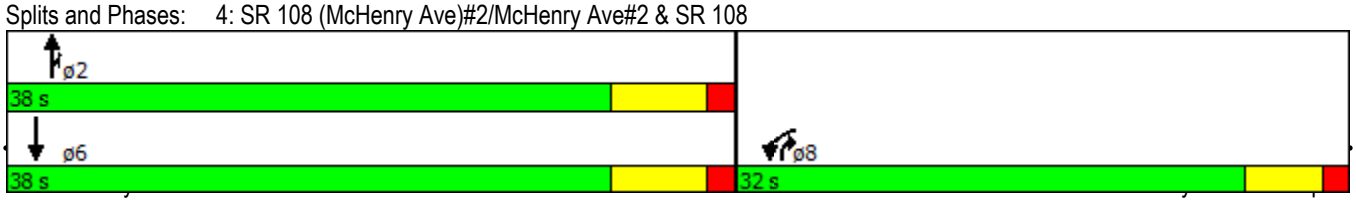
4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	260	10	310	70	0	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	32.0		38.0			38.0
Total Split (%)	45.7%		54.3%			54.3%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 41.1
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108



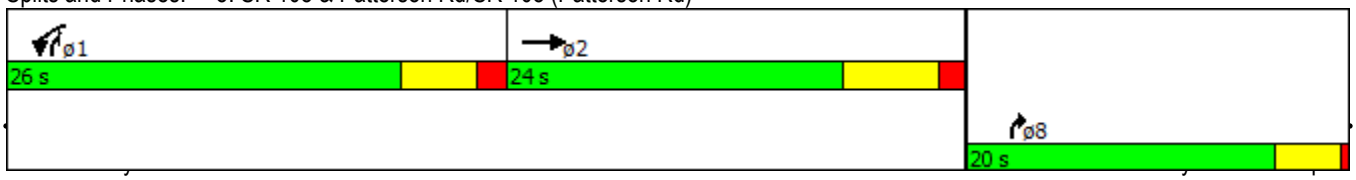
5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	140	10	260	510	0	70	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		60		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	9%	9%	9%	9%	13%	13%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	24.0		26.0				20.0
Total Split (%)	34.3%		37.1%				29%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 46.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)



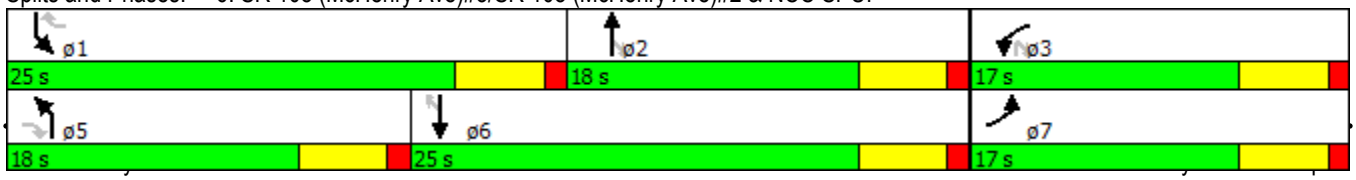
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	30	100	260	190	90	280	90	40	500	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		2		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			No			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	17.0	18.0	17.0	25.0	18.0	18.0		25.0	25.0	25.0
Total Split (%)	28.3%	30.0%	28.3%	41.7%	30.0%	30.0%		41.7%	41.7%	41.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 44.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI



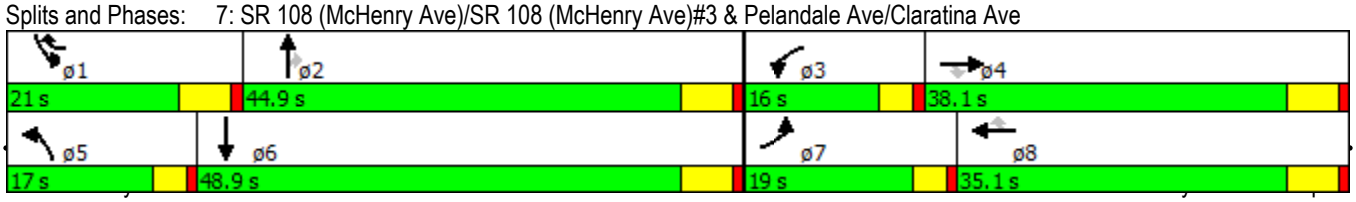
7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	600	180	190	920	280	190	660	150	100	620	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		350	300		350	225		200	500		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	60			60			60			120		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4998			3590			3932			1543	
Travel Time (s)		75.7			54.4			67.0			26.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.0	33.7	33.7	9.0	32.7	10.7	9.0	43.7	43.7	10.7	43.7	
Total Split (s)	19.0	38.1	38.1	16.0	35.1	21.0	17.0	44.9	44.9	21.0	48.9	
Total Split (%)	15.8%	31.8%	31.8%	13.3%	29.3%	17.5%	14.2%	37.4%	37.4%	17.5%	40.8%	
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 89.9
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave



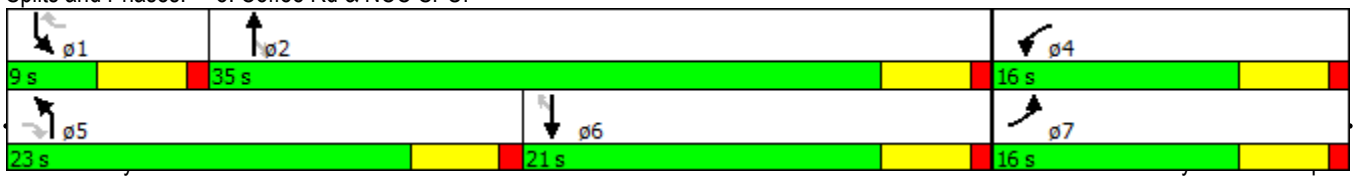
8: Coffee Rd & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	40	50	300	20	250	170	180	20	270	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		650			650		
Storage Lanes	1		1		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1052			1060	
Travel Time (s)						15.9			16.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		4		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	7	5	4	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	16.0	23.0	16.0	9.0	23.0	35.0	35.0	9.0	21.0	21.0
Total Split (%)	26.7%	38.3%	26.7%	15.0%	38.3%	58.3%	58.3%	15.0%	35.0%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 48.3
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd & NCC SPUI



9: Coffee Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	380	220	70	800	60	360	410	60	30	390	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		0	300		0	300		300
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1474			3364			1337			1327	
Travel Time (s)		22.3			41.7			20.3			20.1	
Confl. Peds. (#/hr)						5						5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	21.0
Total Split (s)	13.0	24.0	24.0	14.0	25.0		20.0	32.0		10.0	22.0	22.0
Total Split (%)	16.3%	30.0%	30.0%	17.5%	31.3%		25.0%	40.0%		12.5%	27.5%	27.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 72.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Coffee Rd & Claratina Ave

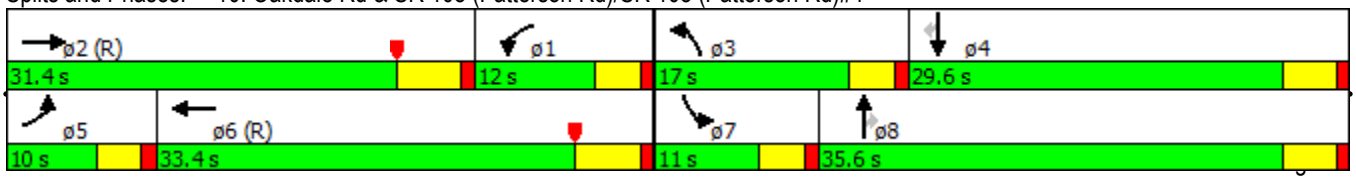
10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	160	20	140	490	40	120	50	70	50	60	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		0	200		0	150		75
Storage Lanes	1		0	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3274			2623			2223	
Travel Time (s)		42.0			63.8			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	10.0	31.4		12.0	33.4		17.0	35.6	35.6	11.0	29.6	29.6
Total Split (%)	11.1%	34.9%		13.3%	37.1%		18.9%	39.6%	39.6%	12.2%	32.9%	32.9%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	-0.6	-0.6	0.0	-0.6	-0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4



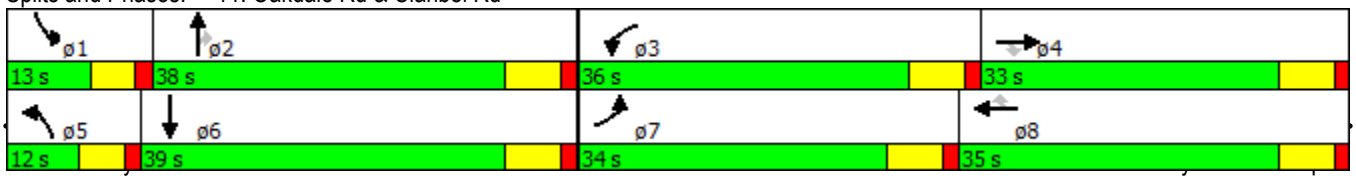
11: Oakdale Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	30	80	390	10	50	30	210	230	40	440	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	34.0	33.0	33.0	36.0	35.0	35.0	12.0	38.0	38.0	13.0	39.0	
Total Split (%)	28.3%	27.5%	27.5%	30.0%	29.2%	29.2%	10.0%	31.7%	31.7%	10.8%	32.5%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 61.8
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



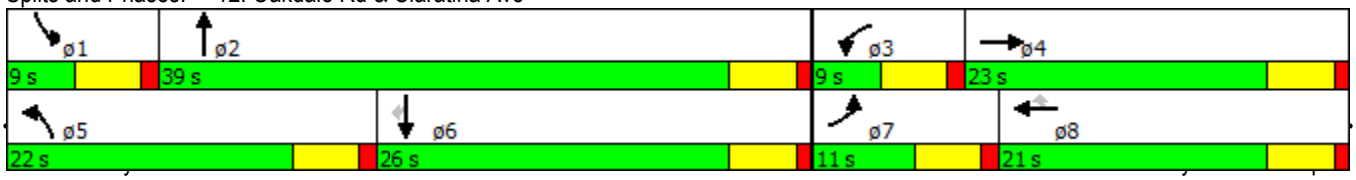
12: Oakdale Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	100	200	10	180	10	550	350	20	10	600	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	500		0	300		300
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1440			1326			2104			555	
Travel Time (s)		17.9			16.4			31.9			8.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0
Total Split (s)	11.0	23.0		9.0	21.0	21.0	22.0	39.0		9.0	26.0	26.0
Total Split (%)	13.8%	28.8%		11.3%	26.3%	26.3%	27.5%	48.8%		11.3%	32.5%	32.5%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 68.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Oakdale Rd & Claratina Ave



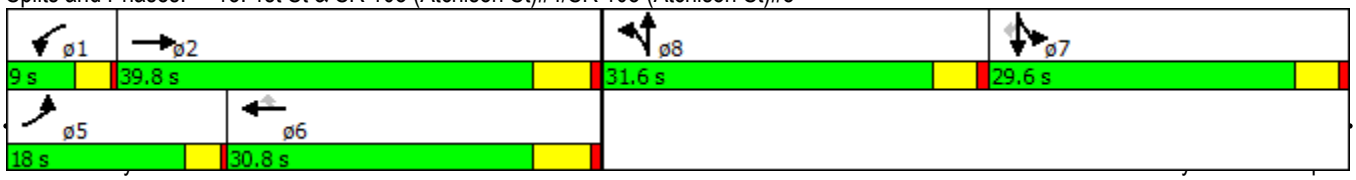
13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	90	20	20	190	170	50	190	40	140	130	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	75		150	250		0	175		100
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3283			3394			1265			1732	
Travel Time (s)		64.0			66.1			28.8			39.4	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	23%	23%	23%	23%	23%	23%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Detector Phase	5	2		1	6	6	8	8		7	7	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	29.6
Total Split (s)	18.0	39.8		9.0	30.8	30.8	31.6	31.6		29.6	29.6	29.6
Total Split (%)	16.4%	36.2%		8.2%	28.0%	28.0%	28.7%	28.7%		26.9%	26.9%	26.9%
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	-0.6	-0.6		-0.6	-0.6	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 75.8
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5



14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	50	140	10	50	30	20	270	20	20	360	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	CBD
Control Type: Unsignalized	

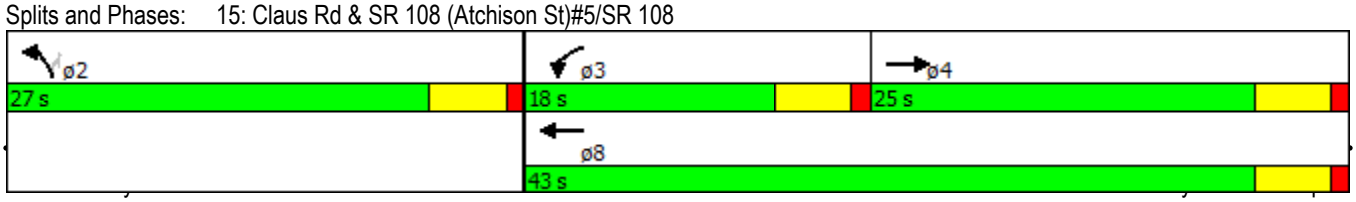
15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	100	120	70	340	60	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		300	400		0	150
Storage Lanes		1	1		1	1
Taper Length (ft)			60		60	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	883			934	1620	
Travel Time (s)	17.2			14.2	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	21.0		9.0	21.0	21.0	21.0
Total Split (s)	25.0		18.0	43.0	27.0	27.0
Total Split (%)	35.7%		25.7%	61.4%	38.6%	38.6%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		Min	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 29.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108



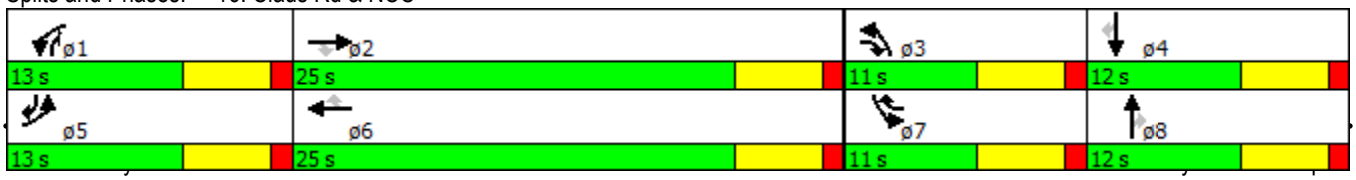
16: Claus Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	890	150	240	820	40	230	110	230	50	160	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		1000	520		720
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1700			1204			1344	
Travel Time (s)		14.4			21.1			14.9			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	13.0	25.0	11.0	13.0	25.0	11.0	11.0	12.0	13.0	11.0	12.0	13.0
Total Split (%)	21.3%	41.0%	18.0%	21.3%	41.0%	18.0%	18.0%	19.7%	21.3%	18.0%	19.7%	21.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 61
Actuated Cycle Length: 57.6
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & NCC



17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	50	10	10	120	40	10	10	10	40	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	200		0	0		300
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			45	
Link Distance (ft)		2918			5382			1523			860	
Travel Time (s)		36.2			66.7			34.6			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

18: Bentley & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	100	10	20	220	20	20	10	10	10	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		20	0		20
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		2761			2529			1526			1244	
Travel Time (s)		62.8			31.4			23.1			18.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	330	50	40	260	70	90	60	20	110	60	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	250		300	250		0	100		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		1648			2595			1311			1681	
Travel Time (s)		28.1			59.0			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	19%	2%	2%	19%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3		9.0	29.3		32.0	32.0		34.0	34.0	34.0
Total Split (s)	16.0	40.0		12.0	36.0		38.0	38.0		38.0	38.0	38.0
Total Split (%)	17.8%	44.4%		13.3%	40.0%		42.2%	42.2%		42.2%	42.2%	42.2%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 38.5
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

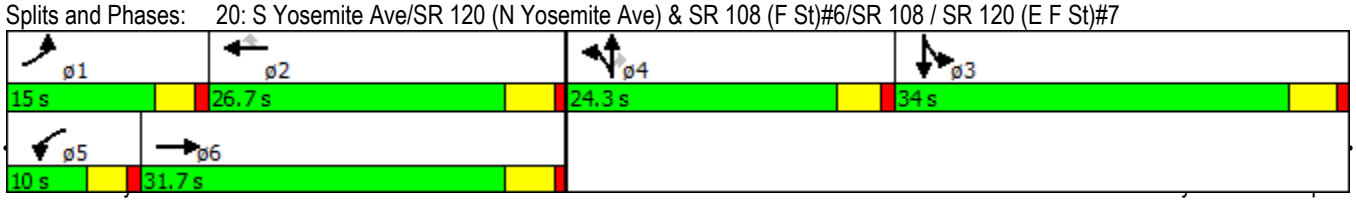
20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	230	60	10	170	270	100	290	40	260	390	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2713			2600			1983			5906	
Travel Time (s)		74.0			59.1			45.1			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	19%	19%	19%	19%	19%	19%	20%	20%	20%	20%	20%	20%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	15.0	31.7		10.0	26.7	26.7	24.3	24.3	24.3	34.0	34.0	
Total Split (%)	15.0%	31.7%		10.0%	26.7%	26.7%	24.3%	24.3%	24.3%	34.0%	34.0%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-0.6		0.0	-0.6	-0.6		-0.2	-0.2		-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 86.2
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7



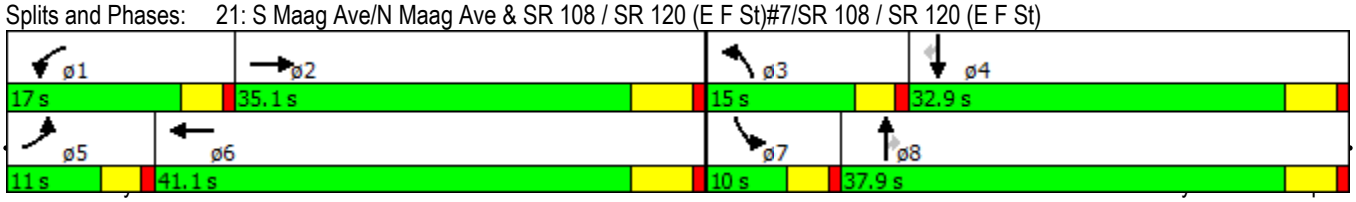
21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	170	150	150	150	40	260	110	80	30	150	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2050			2745			1922			2964	
Travel Time (s)		39.9			53.5			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	19%	2%	2%	19%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	11.0	35.1		17.0	41.1		15.0	37.9	37.9	10.0	32.9	32.9
Total Split (%)	11.0%	35.1%		17.0%	41.1%		15.0%	37.9%	37.9%	10.0%	32.9%	32.9%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	-0.9	-0.9	0.0	-0.9	-0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 61.2
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)



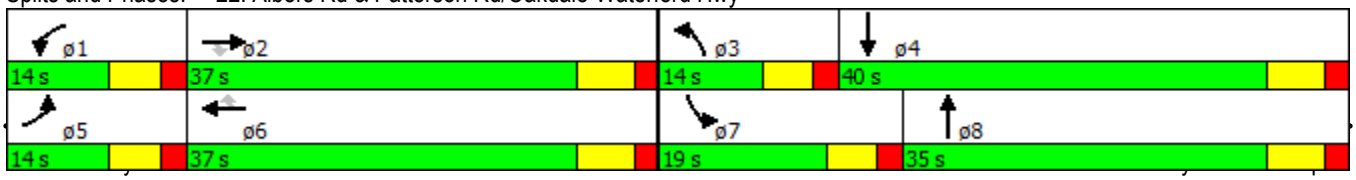
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	30	30	10	70	240	20	560	10	90	500	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2285			1544			2238	
Travel Time (s)		70.0			28.3			19.1			27.7	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	29.5	29.5	14.0	29.5	29.5	14.0	29.5		14.0	29.5	
Total Split (s)	14.0	37.0	37.0	14.0	37.0	37.0	14.0	35.0		19.0	40.0	
Total Split (%)	13.3%	35.2%	35.2%	13.3%	35.2%	35.2%	13.3%	33.3%		18.1%	38.1%	
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5		4.0	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5	-2.5	-2.0	-2.5	-2.5	-2.0	-2.5		-2.0	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 59.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



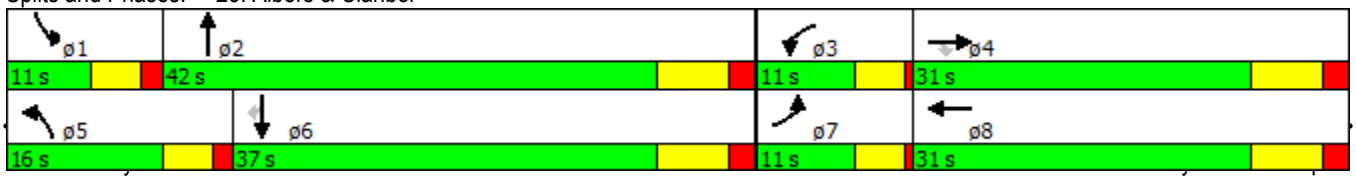
23: Albers & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	40	50	30	170	10	60	460	30	10	520	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	18%	18%	18%	18%	18%	18%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	11.0	31.0	31.0	11.0	31.0		16.0	42.0		11.0	37.0	37.0
Total Split (%)	11.6%	32.6%	32.6%	11.6%	32.6%		16.8%	44.2%		11.6%	38.9%	38.9%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 95
Actuated Cycle Length: 65.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel



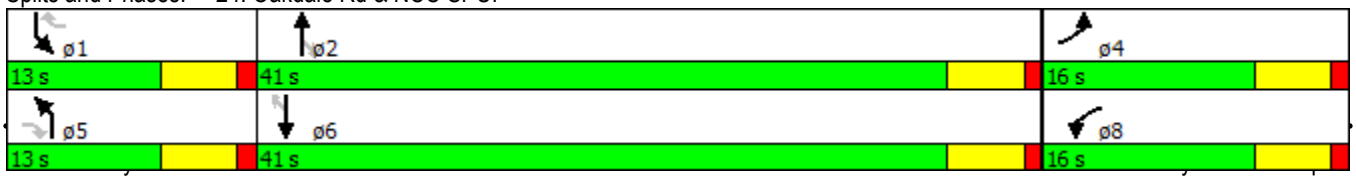
24: Oakdale Rd & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	50	30	180	30	30	390	400	30	540	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	16.0	13.0	16.0	13.0	13.0	41.0	41.0	13.0	41.0	41.0
Total Split (%)	22.9%	18.6%	22.9%	18.6%	18.6%	58.6%	58.6%	18.6%	58.6%	58.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 37.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 24: Oakdale Rd & NCC SPUI



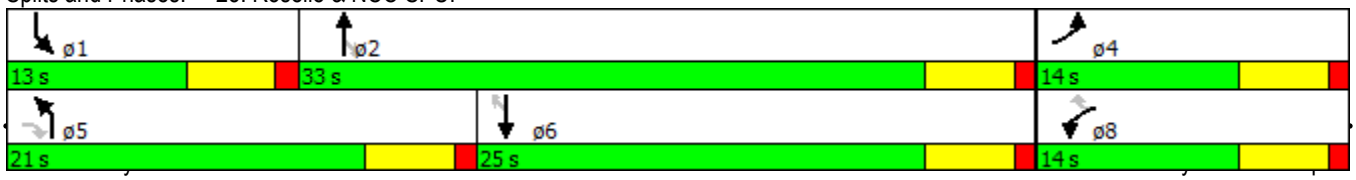
25: Roselle & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	10	90	150	40	150	260	190	40	420	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		400			550		
Storage Lanes	2		1		1			1		
Taper Length (ft)	60		60		60			60		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						782			1192	
Travel Time (s)						11.8			18.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		8			2			6
Detector Phase	4	5	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	14.0	21.0	14.0	14.0	21.0	33.0	33.0	13.0	25.0	25.0
Total Split (%)	23.3%	35.0%	23.3%	23.3%	35.0%	55.0%	55.0%	21.7%	41.7%	41.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 43.2
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Roselle & NCC SPUI



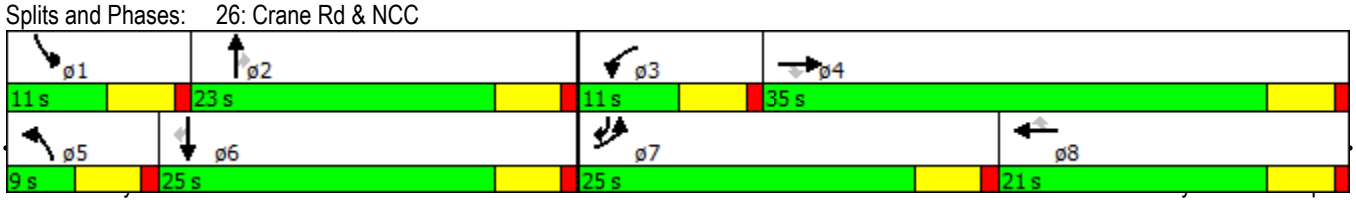
26: Crane Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	480	680	10	40	410	10	10	30	80	30	30	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		630	930		630	150		300	275		275
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		1674			1432			1026			2838	
Travel Time (s)		20.8			17.8			15.5			64.5	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	9.0
Total Split (s)	25.0	35.0	35.0	11.0	21.0	21.0	9.0	23.0	23.0	11.0	25.0	25.0
Total Split (%)	31.3%	43.8%	43.8%	13.8%	26.3%	26.3%	11.3%	28.8%	28.8%	13.8%	31.3%	31.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 50.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Crane Rd & NCC



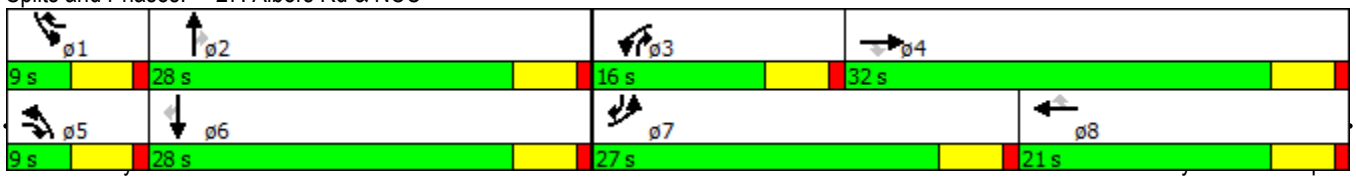
27: Albers Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	570	180	40	220	170	40	10	590	230	10	400	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		750	720		670	200		300	200		500
Storage Lanes	1		1	2		1	1		1	1		2
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1689			4573			2238			2284	
Travel Time (s)		20.9			56.7			27.7			28.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0
Total Split (s)	27.0	32.0	9.0	16.0	21.0	9.0	9.0	28.0	16.0	9.0	28.0	27.0
Total Split (%)	31.8%	37.6%	10.6%	18.8%	24.7%	10.6%	10.6%	32.9%	18.8%	10.6%	32.9%	31.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 66.4
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Albers Rd & NCC



28: NCC & Sterns Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	250	10	10	260	10	10	10	10	10	10	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	120			120			120			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2921			4112			493			963	
Travel Time (s)		36.2			51.0			11.2			21.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

29: NCC & SR 120/108

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	220	30	230	430	10	10	10	250	20	20	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			55			30	
Link Distance (ft)		2276			1267			4112			356	
Travel Time (s)		28.2			15.7			51.0			8.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

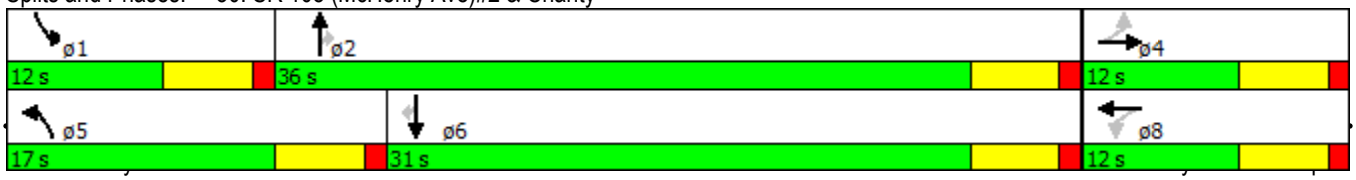
30: SR 108 (McHenry Ave)#2 & Charity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	10	10	10	80	410	10	10	720	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1288			1150			2456	
Travel Time (s)		21.7			29.3			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	12.0	12.0		12.0	12.0		17.0	36.0	36.0	12.0	31.0	31.0
Total Split (%)	20.0%	20.0%		20.0%	20.0%		28.3%	60.0%	60.0%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 36.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity



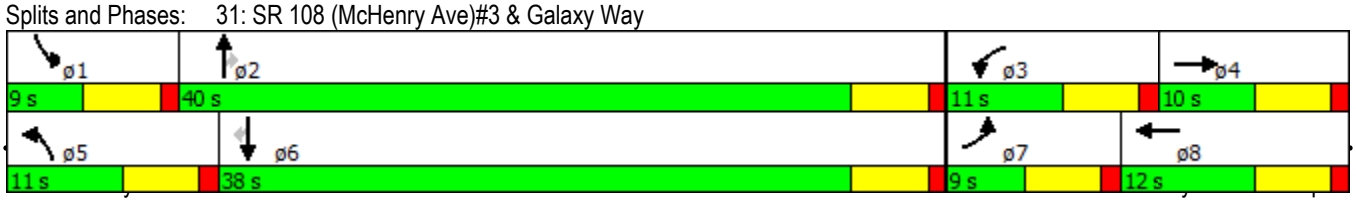
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	30	10	40	30	400	20	30	790	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	9.0	10.0		11.0	12.0		11.0	40.0	40.0	9.0	38.0	38.0
Total Split (%)	12.9%	14.3%		15.7%	17.1%		15.7%	57.1%	57.1%	12.9%	54.3%	54.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 42.7
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	20	10	10	10	210	10	10	520	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1292			2119			1060			1386	
Travel Time (s)		29.4			48.2			16.1			21.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	10	10	10	20	10	560	10	20	580	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		747			1155			1036			1052	
Travel Time (s)		17.0			26.3			15.7			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	30	20	10	20	10	770	10	10	730	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			411			1462	
Travel Time (s)		15.7			12.6			6.2			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

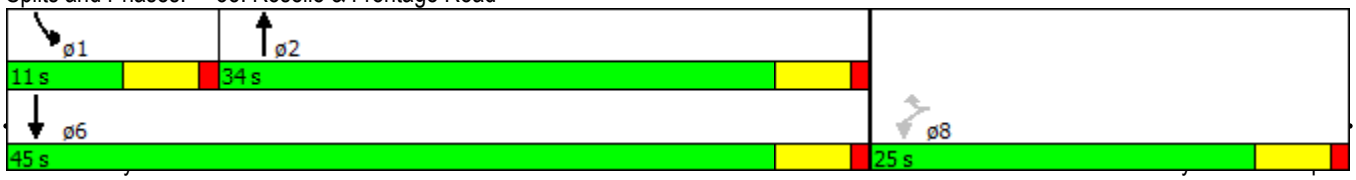
35: Roselle & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	20	100	500	10	20	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	25.0	25.0	34.0		11.0	45.0
Total Split (%)	35.7%	35.7%	48.6%		15.7%	64.3%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 36.5
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road



36: Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	60	10	10	40	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

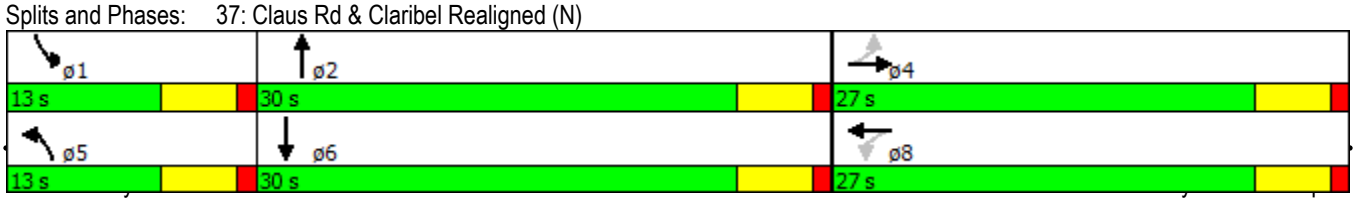
37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	40	80	10	10	10	190	100	20	330	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	27.0	27.0		27.0	27.0		13.0	30.0		13.0	30.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		18.6%	42.9%		18.6%	42.9%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 31.6
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)



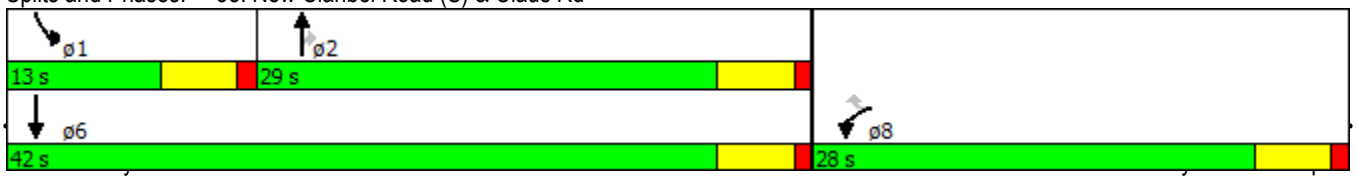
38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	60	200	370	30	90	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			904
Travel Time (s)	12.0		43.7			11.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	9.0	21.0
Total Split (s)	28.0	28.0	29.0	29.0	13.0	42.0
Total Split (%)	40.0%	40.0%	41.4%	41.4%	18.6%	60.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 39
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 38: New Claribel Road (S) & Claus Rd



39: Sterns & Sterns Connection

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	20	160	10	20	160	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	60				60	
Link Speed (mph)	30		45			45
Link Distance (ft)	963		839			839
Travel Time (s)	21.9		12.7			12.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	NWL	NWR	NER	NER2
Lane Configurations					
Volume (vph)	0	0	0	470	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12
Grade (%)	0%	0%		0%	
Storage Length (ft)	0	0	0	0	
Storage Lanes	0	0	0	4	
Taper Length (ft)	60	60			
Link Speed (mph)	55	30		55	
Link Distance (ft)	2482	1305		1260	
Travel Time (s)	30.8	29.7		15.6	
Confl. Peds. (#/hr)					
Confl. Bikes (#/hr)					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0
Parking (#/hr)					
Mid-Block Traffic (%)	0%	0%		0%	
Shared Lane Traffic (%)					
Sign Control	Stop	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	470	0	0	0	0	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2482			1462	745	
Travel Time (s)	30.8			18.1	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1200	450	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2481	1481		1250	
Travel Time (s)		30.8	18.4		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	960	100	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2138			2475	1369	
Travel Time (s)	26.5			30.7	31.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	600	0	0	0	1500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	3
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2690	1260		432	
Travel Time (s)		33.3	15.6		9.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	960	0	0	0	0	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	55	
Link Distance (ft)	2475			727	1175	
Travel Time (s)	30.7			16.5	14.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1100	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1306			2501	1150	
Travel Time (s)	29.7			31.0	14.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	1100	0	0	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		868	2501		1267	
Travel Time (s)		10.8	31.0		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	1200	0	0	0	0	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	30		55			45
Link Distance (ft)	2481		831			1357
Travel Time (s)	56.4		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	510	0	0	0	0	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	45	
Link Distance (ft)	2052			662	1091	
Travel Time (s)	25.4			15.0	16.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1090	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	1090	0	0	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2354	2226		1058	
Travel Time (s)		29.2	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	1290	0	1190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	630	80	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2307			2293	1098	
Travel Time (s)	28.6			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	630	0	0	0	0	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

157: Crane Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	0	0	0	120	50	0	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		100	0		100
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		164			172			860			1026	
Travel Time (s)		3.7			3.9			13.0			15.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	510	90	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	30	
Link Distance (ft)	1627			2052	1054	
Travel Time (s)	20.2			46.6	24.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)		10%				
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

193: NCC SPUI

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1140	320	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		2152	1292		1081	
Travel Time (s)		48.9	16.0		24.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	1140	0	0	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		1496	2152		465	
Travel Time (s)		34.0	26.7		10.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

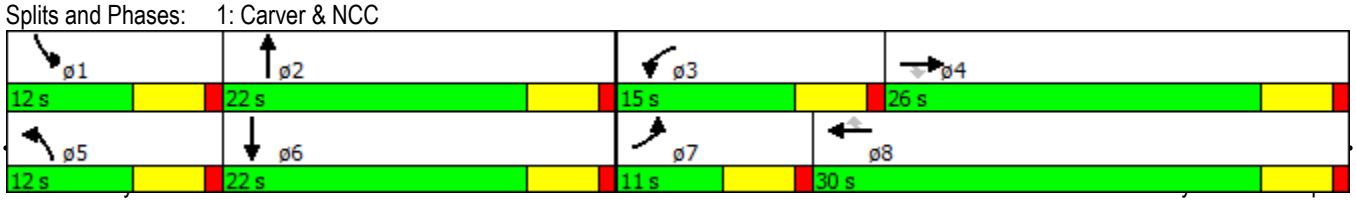
1: Carver & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	1040	150	130	980	50	80	90	100	60	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	11.0	26.0	26.0	15.0	30.0	30.0	12.0	22.0		12.0	22.0	
Total Split (%)	14.7%	34.7%	34.7%	20.0%	40.0%	40.0%	16.0%	29.3%		16.0%	29.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 64.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC



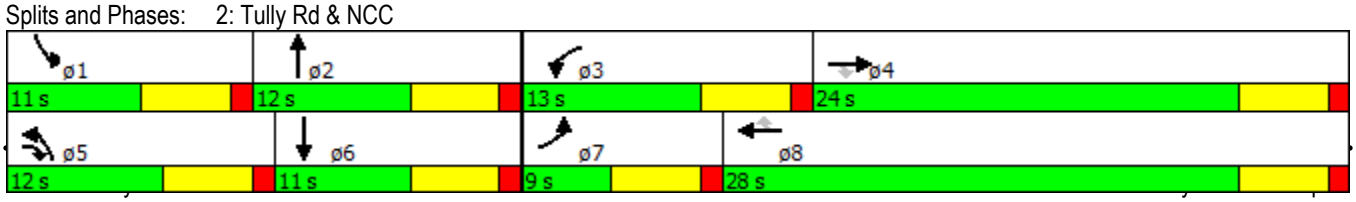
2: Tully Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	1010	170	350	880	50	260	160	460	60	140	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Total Split (s)	9.0	24.0	12.0	13.0	28.0	28.0	12.0	12.0		11.0	11.0	
Total Split (%)	15.0%	40.0%	20.0%	21.7%	46.7%	46.7%	20.0%	20.0%		18.3%	18.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 55.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



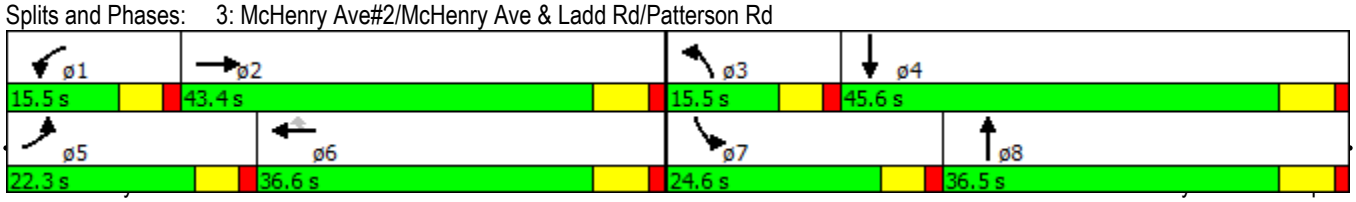
3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	170	20	10	250	90	60	370	10	270	420	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	36.5		15.5	36.5	36.5	15.5	36.5		15.5	36.5	
Total Split (s)	22.3	43.4		15.5	36.6	36.6	15.5	36.5		24.6	45.6	
Total Split (%)	18.6%	36.2%		12.9%	30.5%	30.5%	12.9%	30.4%		20.5%	38.0%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 98.9
Natural Cycle: 115
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd



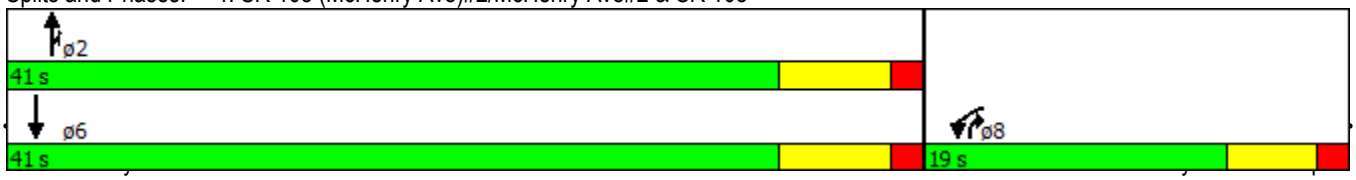
4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	130	10	430	340	0	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	19.0		41.0			41.0
Total Split (%)	31.7%		68.3%			68.3%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 44.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108



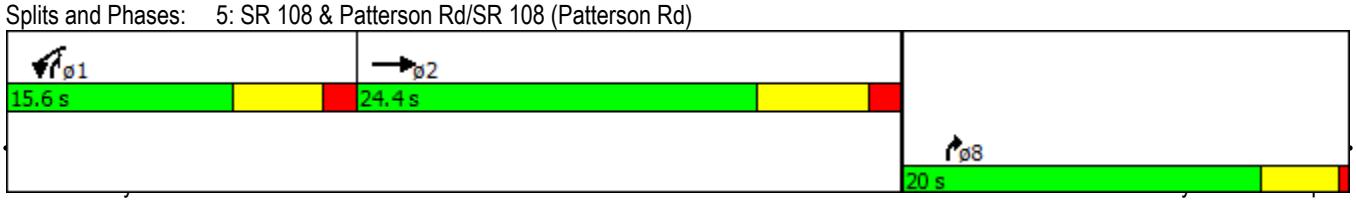
5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	440	10	130	350	0	340	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		60		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	8%	8%	8%	8%	9%	9%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	24.4		15.6				20.0
Total Split (%)	40.7%		26.0%				33%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 53.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)



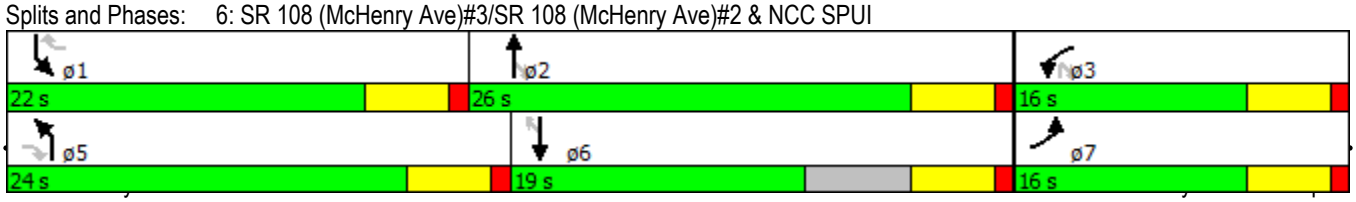
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	200	200	220	170	130	610	530	70	480	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		2		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			No			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	16.0	24.0	16.0	22.0	24.0	26.0		22.0	19.0	19.0
Total Split (%)	25.0%	37.5%	25.0%	34.4%	37.5%	40.6%		34.4%	29.7%	29.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 64
Actuated Cycle Length: 52
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI



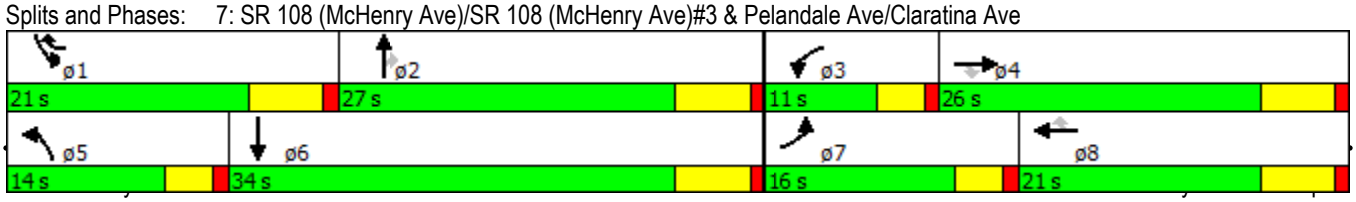
7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	1080	340	220	590	160	290	1010	190	490	930	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		350	300		350	225		200	500		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	60			60			60			120		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4998			3590			3932			1543	
Travel Time (s)		75.7			54.4			67.0			26.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.0	15.7	15.7	9.0	15.7	10.7	9.0	15.7	15.7	10.7	15.7	
Total Split (s)	16.0	26.0	26.0	11.0	21.0	21.0	14.0	27.0	27.0	21.0	34.0	
Total Split (%)	18.8%	30.6%	30.6%	12.9%	24.7%	24.7%	16.5%	31.8%	31.8%	24.7%	40.0%	
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 84.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave



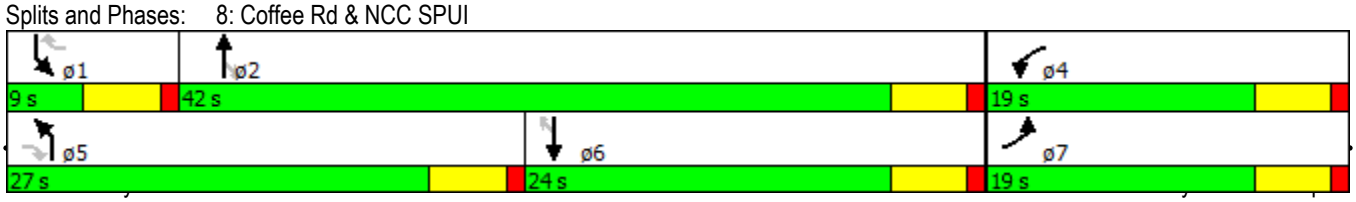
8: Coffee Rd & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	300	170	230	20	220	200	330	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		600			650		
Storage Lanes	1		1		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1052			1060	
Travel Time (s)						15.9			16.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		4		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	7	5	4	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	19.0	27.0	19.0	9.0	27.0	42.0	42.0	9.0	24.0	24.0
Total Split (%)	27.1%	38.6%	27.1%	12.9%	38.6%	60.0%	60.0%	12.9%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 45.7
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd & NCC SPUI



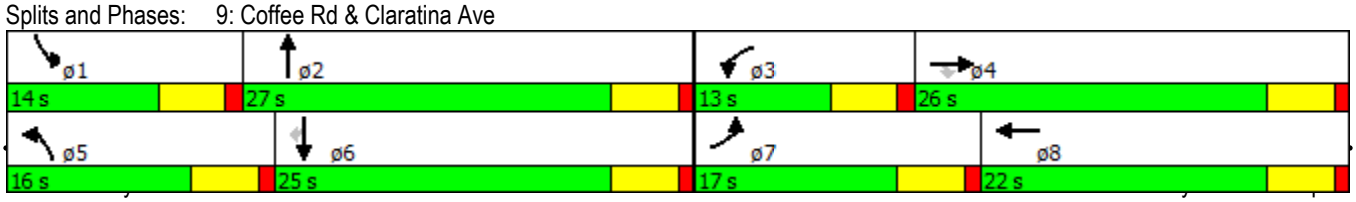
9: Coffee Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	280	930	480	90	480	60	320	420	70	70	180	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		0	300		0	300		300
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1474			3364			1337			1327	
Travel Time (s)		22.3			41.7			20.3			20.1	
Confl. Peds. (#/hr)						5						5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	44%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	21.0
Total Split (s)	17.0	26.0	26.0	13.0	22.0		16.0	27.0		14.0	25.0	25.0
Total Split (%)	21.3%	32.5%	32.5%	16.3%	27.5%		20.0%	33.8%		17.5%	31.3%	31.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 69.3
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Coffee Rd & Claratina Ave



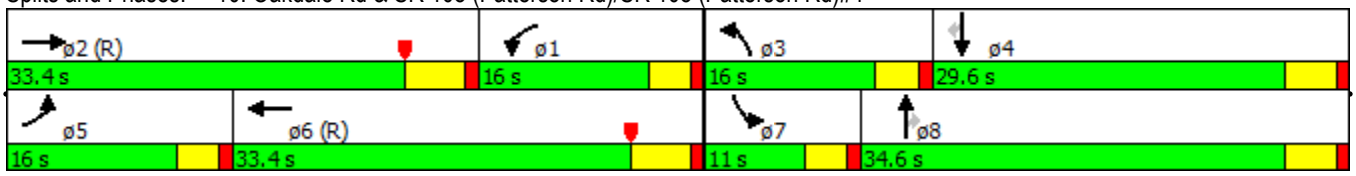
10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	600	110	300	290	30	140	70	190	50	50	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		0	200		0	150		75
Storage Lanes	1		0	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3274			2623			2223	
Travel Time (s)		42.0			63.8			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	16.0	33.4		16.0	33.4		16.0	34.6	34.6	11.0	29.6	29.6
Total Split (%)	16.8%	35.2%		16.8%	35.2%		16.8%	36.4%	36.4%	11.6%	31.2%	31.2%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	-0.6	-0.6	0.0	-0.6	-0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4



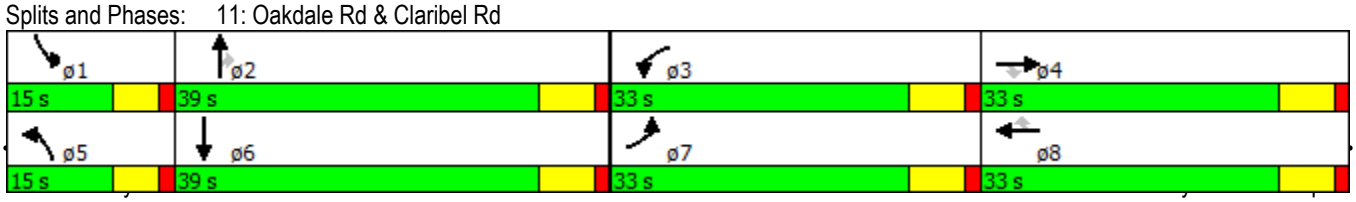
11: Oakdale Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	20	100	370	10	40	60	470	380	60	450	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	15.0	39.0	39.0	15.0	39.0	
Total Split (%)	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	12.5%	32.5%	32.5%	12.5%	32.5%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 67.9
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



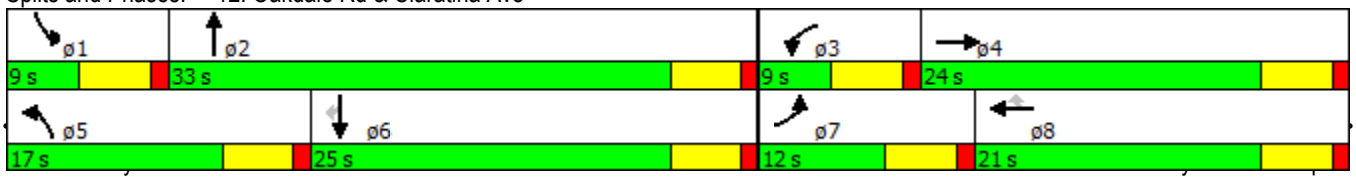
12: Oakdale Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	300	690	20	190	20	330	670	40	10	580	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	500		0	300		300
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1440			1326			2104			630	
Travel Time (s)		17.9			16.4			31.9			9.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0
Total Split (s)	12.0	24.0		9.0	21.0	21.0	17.0	33.0		9.0	25.0	25.0
Total Split (%)	16.0%	32.0%		12.0%	28.0%	28.0%	22.7%	44.0%		12.0%	33.3%	33.3%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 62.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Oakdale Rd & Claratina Ave



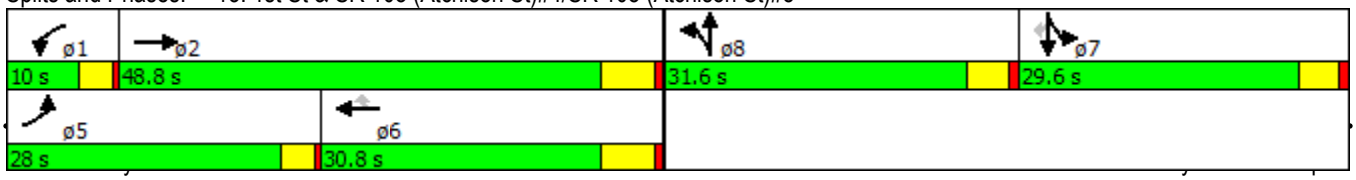
13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	340	30	30	140	120	60	220	30	220	180	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	75		150	250		0	175		100
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3283			3394			1265			1732	
Travel Time (s)		64.0			66.1			28.8			39.4	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	16%	16%	16%	16%	16%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Detector Phase	5	2		1	6	6	8	8		7	7	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	29.6
Total Split (s)	28.0	48.8		10.0	30.8	30.8	31.6	31.6		29.6	29.6	29.6
Total Split (%)	23.3%	40.7%		8.3%	25.7%	25.7%	26.3%	26.3%		24.7%	24.7%	24.7%
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	-0.6	-0.6		-0.6	-0.6	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 94
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5



14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	40	70	20	60	20	130	360	30	30	310	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	CBD
Control Type: Unsignalized	

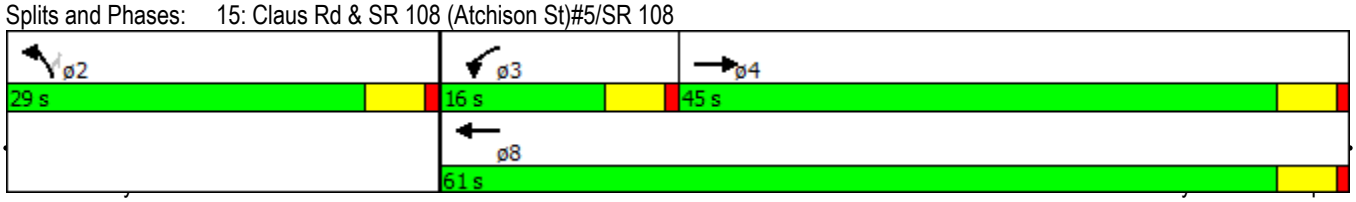
15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	450	170	30	190	50	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		300	400		0	150
Storage Lanes		1	1		1	1
Taper Length (ft)			60		60	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	883			934	1620	
Travel Time (s)	17.2			14.2	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	21.0		9.0	21.0	21.0	21.0
Total Split (s)	45.0		16.0	61.0	29.0	29.0
Total Split (%)	50.0%		17.8%	67.8%	32.2%	32.2%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 32.6
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108



16: Claus Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	830	330	380	760	100	380	130	320	30	190	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		1000	520		720
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1700			1204			1344	
Travel Time (s)		14.4			21.1			14.9			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	13.0	22.0	13.0	14.0	23.0	11.0	13.0	13.0	14.0	11.0	12.0	13.0
Total Split (%)	21.3%	36.1%	21.3%	23.0%	37.7%	18.0%	21.3%	21.3%	23.0%	18.0%	19.7%	21.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 61
Actuated Cycle Length: 59.2
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & NCC

17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	120	10	10	100	20	10	10	10	40	10	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	200		0	0		300
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			45	
Link Distance (ft)		2918			5382			1610			860	
Travel Time (s)		36.2			66.7			36.6			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

18: Bentley & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	210	20	30	110	20	10	30	10	20	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		20	0		20
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		2761			2529			1526			1244	
Travel Time (s)		62.8			31.4			23.1			18.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

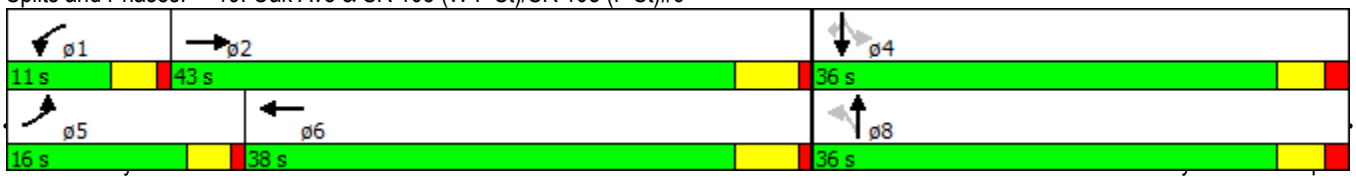
19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	510	40	30	480	70	90	50	60	90	40	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	250		300	250		0	100		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		1648			2595			1311			1681	
Travel Time (s)		28.1			59.0			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	13%	2%	2%	13%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3		9.0	29.3		32.0	32.0		34.0	34.0	34.0
Total Split (s)	16.0	43.0		11.0	38.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	17.8%	47.8%		12.2%	42.2%		40.0%	40.0%		40.0%	40.0%	40.0%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 43.1
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6



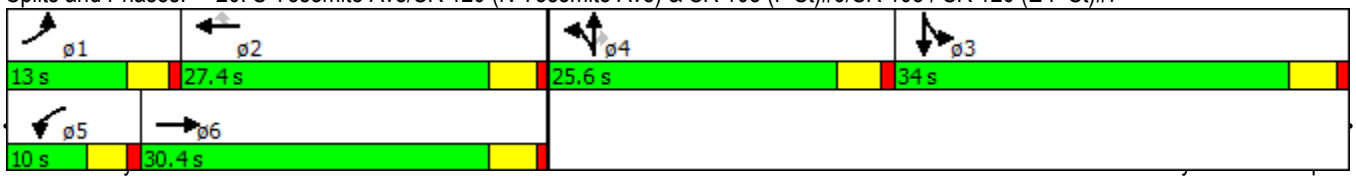
20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	280	50	20	220	370	100	420	30	310	390	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2713			2600			1983			5906	
Travel Time (s)		74.0			59.1			45.1			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	15%	15%	15%	15%	15%	15%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	13.0	30.4		10.0	27.4	27.4	25.6	25.6	25.6	34.0	34.0	
Total Split (%)	13.0%	30.4%		10.0%	27.4%	27.4%	25.6%	25.6%	25.6%	34.0%	34.0%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-0.6		0.0	-0.6	-0.6		-0.2	-0.2		-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 90.4
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7



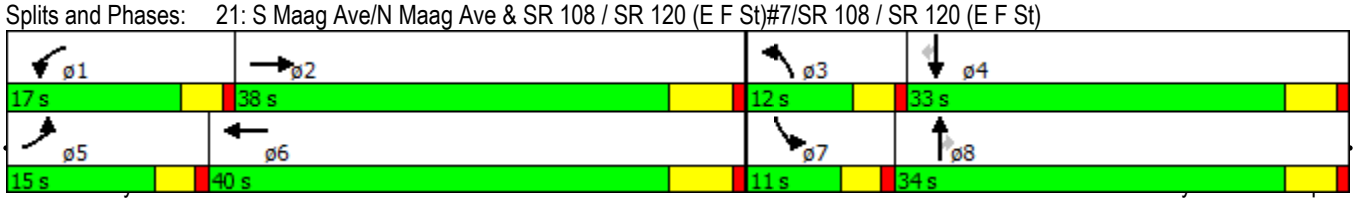
21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	200	160	110	290	50	140	150	170	50	120	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2050			2745			1922			2964	
Travel Time (s)		39.9			53.5			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	13%	2%	2%	13%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	15.0	38.0		17.0	40.0		12.0	34.0	34.0	11.0	33.0	33.0
Total Split (%)	15.0%	38.0%		17.0%	40.0%		12.0%	34.0%	34.0%	11.0%	33.0%	33.0%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	-0.9	-0.9	0.0	-0.9	-0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 52.3
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)



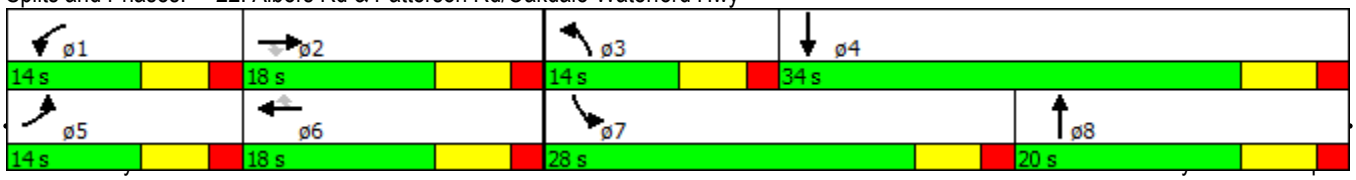
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	100	10	10	20	200	30	470	10	340	550	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2285			1544			2238	
Travel Time (s)		70.0			28.3			19.1			27.7	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	14.5	14.5	14.0	14.5	14.5	14.0	14.5		14.0	14.5	
Total Split (s)	14.0	18.0	18.0	14.0	18.0	18.0	14.0	20.0		28.0	34.0	
Total Split (%)	17.5%	22.5%	22.5%	17.5%	22.5%	22.5%	17.5%	25.0%		35.0%	42.5%	
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5		4.0	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5	-2.5	-2.0	-2.5	-2.5	-2.0	-2.5		-2.0	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 70.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



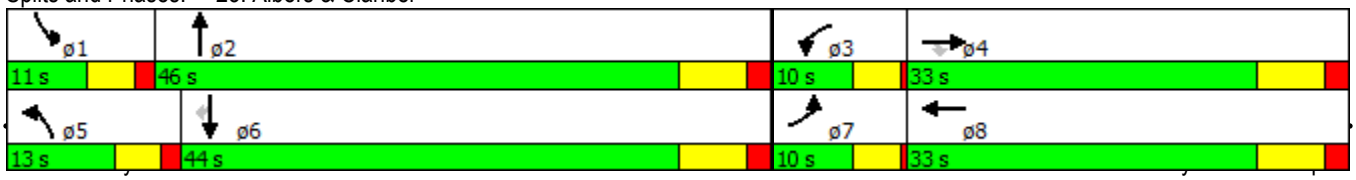
23: Albers & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	130	100	20	90	10	50	570	30	10	470	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	10.0	33.0	33.0	10.0	33.0		13.0	46.0		11.0	44.0	44.0
Total Split (%)	10.0%	33.0%	33.0%	10.0%	33.0%		13.0%	46.0%		11.0%	44.0%	44.0%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 54
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel



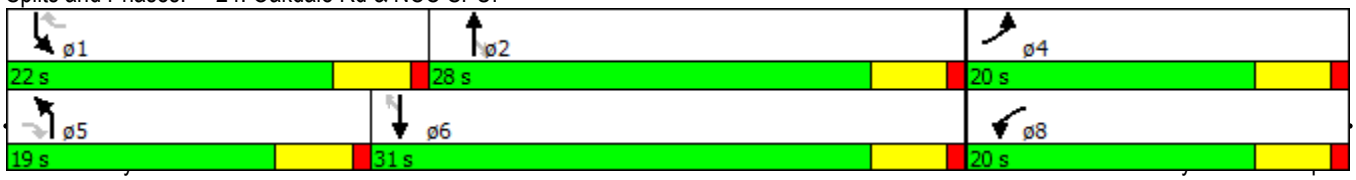
24: Oakdale Rd & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	320	120	220	150	10	440	220	50	590	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	20.0	19.0	20.0	22.0	19.0	28.0	28.0	22.0	31.0	31.0
Total Split (%)	28.6%	27.1%	28.6%	31.4%	27.1%	40.0%	40.0%	31.4%	44.3%	44.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 47.9
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 24: Oakdale Rd & NCC SPUI



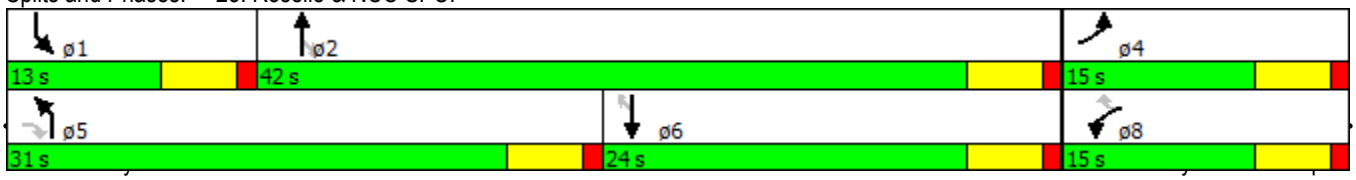
25: Roselle & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	50	250	110	70	120	400	210	50	320	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		550			275		
Storage Lanes	2		1		1			1		
Taper Length (ft)	60		60		60			60		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						782			1192	
Travel Time (s)						11.8			18.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		8			2			6
Detector Phase	4	5	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.0	1.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	15.0	31.0	15.0	15.0	31.0	42.0	42.0	13.0	24.0	24.0
Total Split (%)	21.4%	44.3%	21.4%	21.4%	44.3%	60.0%	60.0%	18.6%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 47.6
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Roselle & NCC SPUI



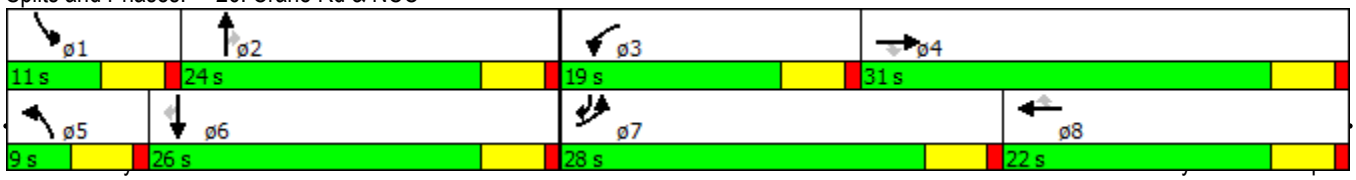
26: Crane Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	570	590	20	140	630	30	10	40	70	30	50	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		630	930		630	150		300	200		350
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		1673			1429			1026			2838	
Travel Time (s)		20.7			17.7			15.5			64.5	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	9.0
Total Split (s)	28.0	31.0	31.0	19.0	22.0	22.0	9.0	24.0	24.0	11.0	26.0	28.0
Total Split (%)	32.9%	36.5%	36.5%	22.4%	25.9%	25.9%	10.6%	28.2%	28.2%	12.9%	30.6%	32.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 57
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Crane Rd & NCC



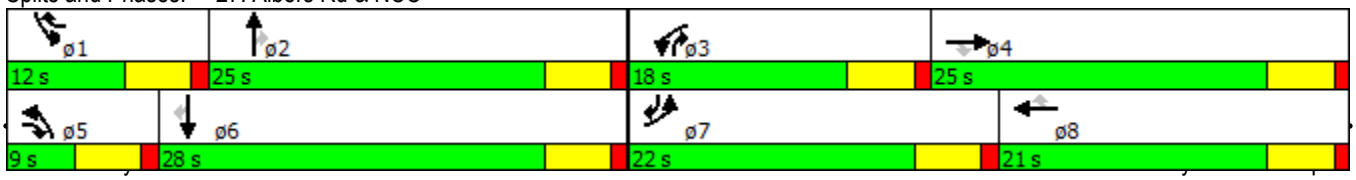
27: Albers Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	210	30	280	190	10	10	440	290	50	620	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		750	720		670	200		300	200		500
Storage Lanes	1		1	2		1	1		1	1		2
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1689			4589			2238			2278	
Travel Time (s)		20.9			56.9			27.7			28.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0
Total Split (s)	22.0	25.0	9.0	18.0	21.0	12.0	9.0	25.0	18.0	12.0	28.0	22.0
Total Split (%)	27.5%	31.3%	11.3%	22.5%	26.3%	15.0%	11.3%	31.3%	22.5%	15.0%	35.0%	27.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 62.6
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Albers Rd & NCC



28: NCC & Sterns Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	320	10	10	250	10	10	10	10	10	10	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	120			120			120			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2914			4095			369			963	
Travel Time (s)		36.1			50.8			8.4			21.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

29: NCC & SR 120/108

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	360	10	240	340	10	30	30	280	20	20	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	700		550	820		390	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			55			30	
Link Distance (ft)		2298			1267			4095			356	
Travel Time (s)		28.5			15.7			50.8			8.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

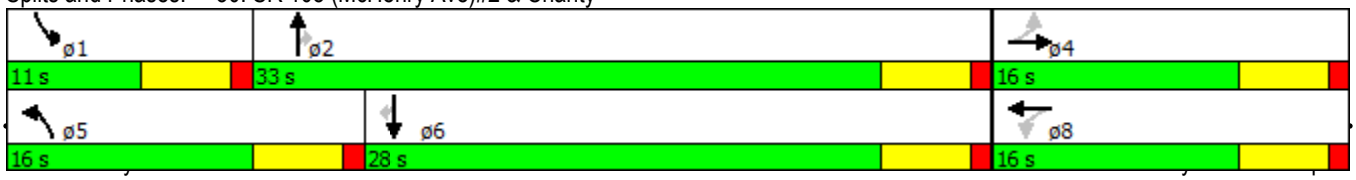
30: SR 108 (McHenry Ave)#2 & Charity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	10	100	20	20	20	80	880	20	20	580	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1274			1150			2456	
Travel Time (s)		21.7			29.0			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	16.0	16.0		16.0	16.0		16.0	33.0	33.0	11.0	28.0	28.0
Total Split (%)	26.7%	26.7%		26.7%	26.7%		26.7%	55.0%	55.0%	18.3%	46.7%	46.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 39.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity



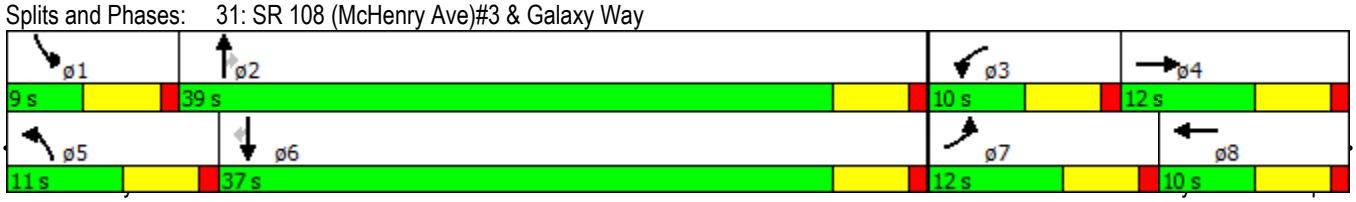
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	10	70	40	10	60	40	1130	40	60	780	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	12.0	12.0		10.0	10.0		11.0	39.0	39.0	9.0	37.0	37.0
Total Split (%)	17.1%	17.1%		14.3%	14.3%		15.7%	55.7%	55.7%	12.9%	52.9%	52.9%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 54.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	20	10	10	10	490	20	10	310	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1303			2125			1060			1369	
Travel Time (s)		29.6			48.3			16.1			20.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	10	10	10	20	10	710	10	20	530	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		822			1164			1312			1052	
Travel Time (s)		18.7			26.5			19.9			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	10	10	10	20	640	20	40	850	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			411			1462	
Travel Time (s)		15.7			12.6			6.2			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

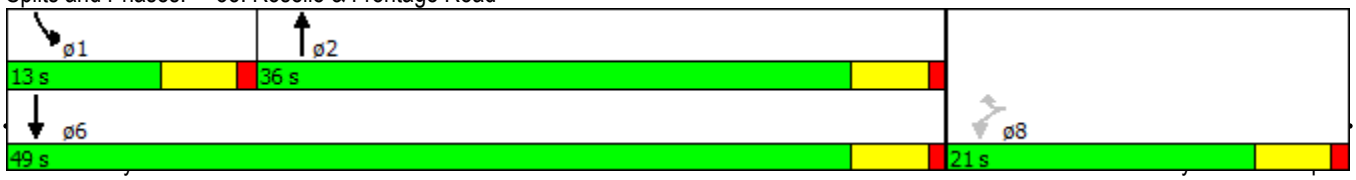
35: Roselle & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	40	690	40	40	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	21.0	21.0	36.0		13.0	49.0
Total Split (%)	30.0%	30.0%	51.4%		18.6%	70.0%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 41.3
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road



36: Davis & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	60	10	10	60	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

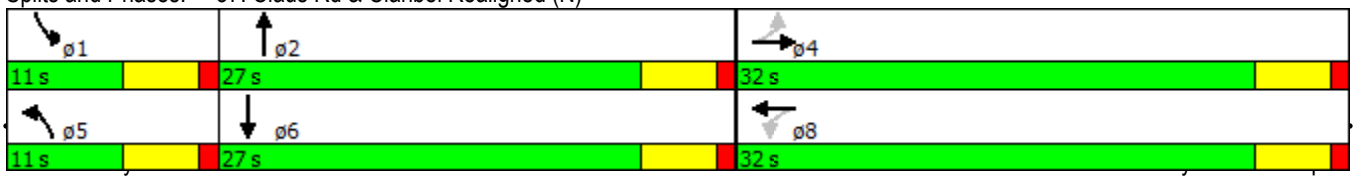
37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	10	10	210	10	30	30	410	30	40	240	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	32.0	32.0		32.0	32.0		11.0	27.0		11.0	27.0	
Total Split (%)	45.7%	45.7%		45.7%	45.7%		15.7%	38.6%		15.7%	38.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 44.1
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)



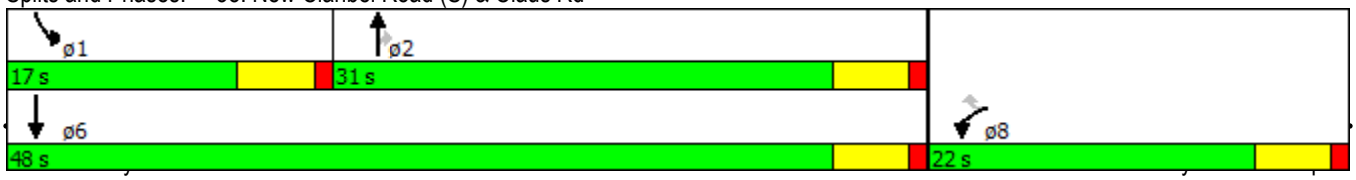
38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	150	680	60	260	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			904
Travel Time (s)	12.0		43.7			11.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	9.0	21.0
Total Split (s)	22.0	22.0	31.0	31.0	17.0	48.0
Total Split (%)	31.4%	31.4%	44.3%	44.3%	24.3%	68.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 49.3
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 38: New Claribel Road (S) & Claus Rd



39: Sterns & Sterns Connection

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	200	20	30	210	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	60				60	
Link Speed (mph)	30		45			45
Link Distance (ft)	963		839			839
Travel Time (s)	21.9		12.7			12.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

56: NCC SPUI

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	0	0	1130	400	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	0		1	0	
Taper Length (ft)	60				60	
Link Speed (mph)	30		55			55
Link Distance (ft)	1305		1260			2486
Travel Time (s)	29.7		15.6			30.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1130	0	0	0	0	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2486			1490	745	
Travel Time (s)	30.8			18.5	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1000	390	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		2484	1658		1250	
Travel Time (s)		56.5	20.6		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1140	300	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2138			2475	1369	
Travel Time (s)	26.5			30.7	31.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	1530	0	0	0	1280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	3
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2690	1260		432	
Travel Time (s)		33.3	15.6		5.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1260	0	0	0	0	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2052			618	1091	
Travel Time (s)	25.4			7.7	16.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	1200	0	0	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		868	2501		1267	
Travel Time (s)		10.8	31.0		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1140	0	0	0	0	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	55	
Link Distance (ft)	2475			727	1175	
Travel Time (s)	30.7			16.5	14.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1200	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1306			2501	1150	
Travel Time (s)	29.7			31.0	14.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

100: NCC SPUI

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1260	470	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	1594			2052	1054	
Travel Time (s)	19.8			25.4	24.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)		18%				
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	1000	0	0	0	0	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2484		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1020	250	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		2152	1355		1081	
Travel Time (s)		48.9	16.8		24.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	980	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	980	0	0	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2292	2226		1058	
Travel Time (s)		28.4	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	1380	0	1400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

129: NCC SPUI & NCC

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1170	440	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2278			2293	1098	
Travel Time (s)	28.2			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1170	0	0	0	0	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

157: Crane Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	0	0	0	120	20	0	200	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		100	0		100
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		164			172			860			1026	
Travel Time (s)		3.7			3.9			13.0			15.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	1020	0	0	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		1319	2152		461	
Travel Time (s)		30.0	26.7		10.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

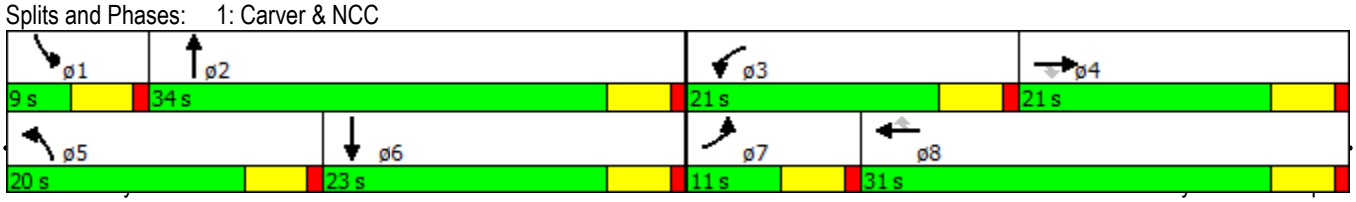
1: Carver & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	640	110	190	990	50	180	60	20	20	120	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	11.0	21.0	21.0	21.0	31.0	31.0	20.0	34.0		9.0	23.0	
Total Split (%)	12.9%	24.7%	24.7%	24.7%	36.5%	36.5%	23.5%	40.0%		10.6%	27.1%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 74
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC



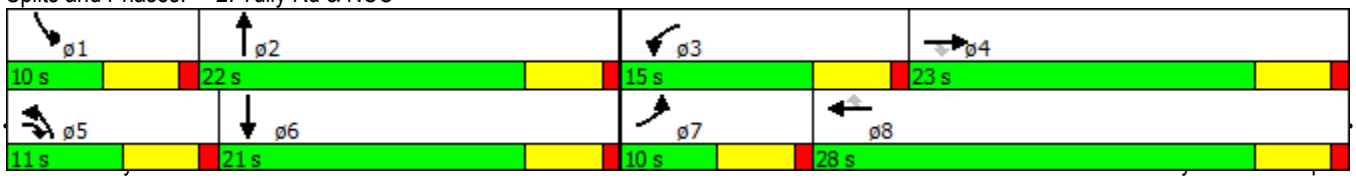
2: Tully Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	450	200	390	1090	20	90	70	120	30	100	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	10.0	23.0	11.0	15.0	28.0	28.0	11.0	22.0		10.0	21.0	
Total Split (%)	14.3%	32.9%	15.7%	21.4%	40.0%	40.0%	15.7%	31.4%		14.3%	30.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 52.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



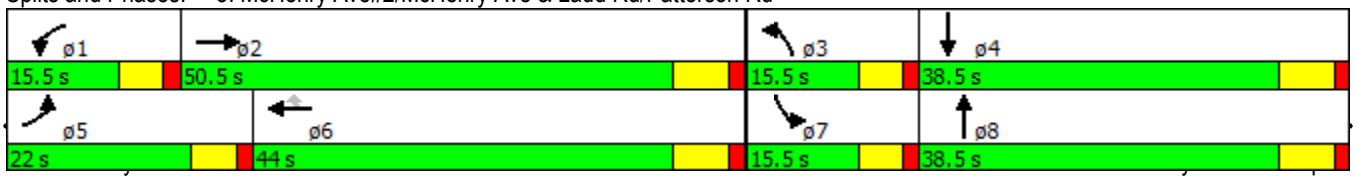
3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	70	40	10	370	130	20	290	10	70	410	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	38.5		15.5	38.5	38.5	15.5	38.5		15.5	38.5	
Total Split (s)	22.0	50.5		15.5	44.0	44.0	15.5	38.5		15.5	38.5	
Total Split (%)	18.3%	42.1%		12.9%	36.7%	36.7%	12.9%	32.1%		12.9%	32.1%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 92.4
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd



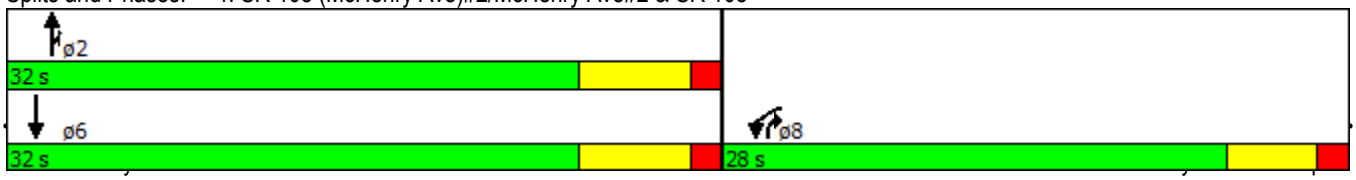
4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	260	10	310	70	0	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	28.0		32.0			32.0
Total Split (%)	46.7%		53.3%			53.3%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 40.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108



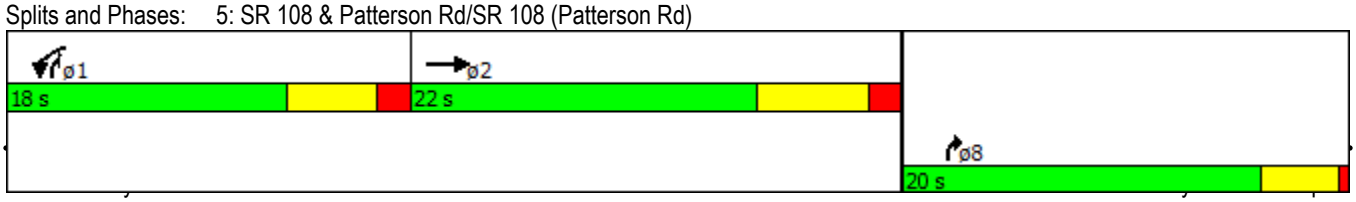
5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	140	10	260	510	0	70	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		60		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	9%	9%	9%	9%	13%	13%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	22.0		18.0				20.0
Total Split (%)	36.7%		30.0%				33%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 44.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)



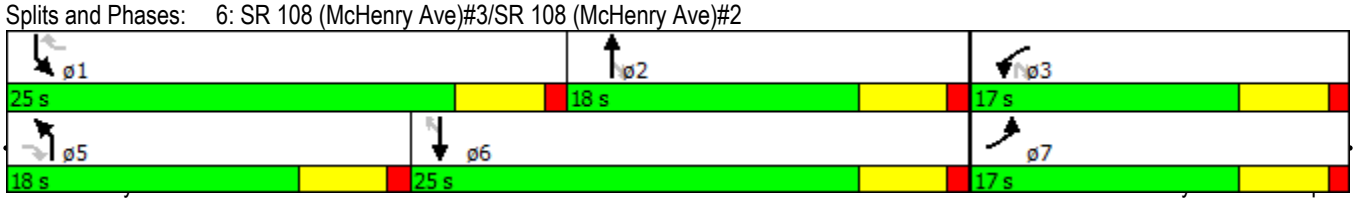
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	30	100	260	190	90	280	90	40	500	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		2		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			No			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	17.0	18.0	17.0	25.0	18.0	18.0		25.0	25.0	25.0
Total Split (%)	28.3%	30.0%	28.3%	41.7%	30.0%	30.0%		41.7%	41.7%	41.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 44.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2



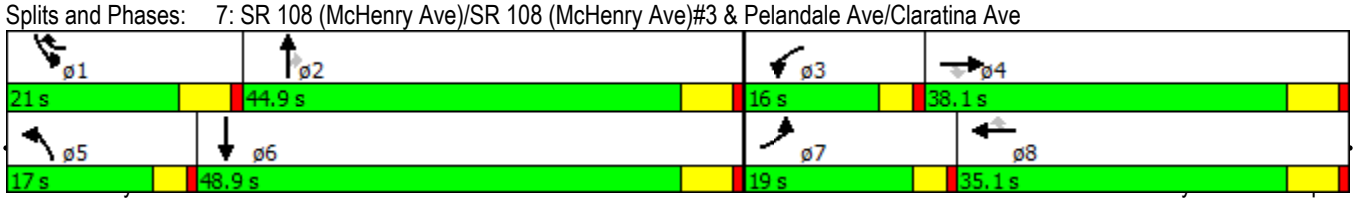
7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	600	180	190	920	280	190	660	150	100	620	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		350	300		350	225		200	500		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	60			60			60			120		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4998			3474			3932			1543	
Travel Time (s)		75.7			52.6			67.0			26.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.0	33.7	33.7	9.0	32.7	10.7	9.0	43.7	43.7	10.7	43.7	
Total Split (s)	19.0	38.1	38.1	16.0	35.1	21.0	17.0	44.9	44.9	21.0	48.9	
Total Split (%)	15.8%	31.8%	31.8%	13.3%	29.3%	17.5%	14.2%	37.4%	37.4%	17.5%	40.8%	
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 89.9
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave



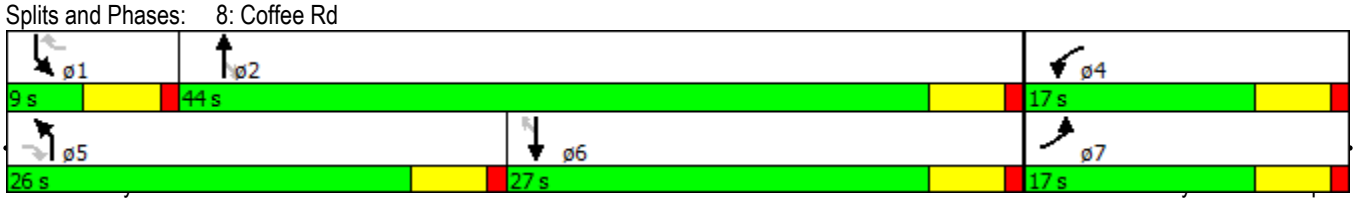
8: Coffee Rd

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	50	50	300	20	250	170	180	20	270	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		600			650		
Storage Lanes	1		1		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1052			1060	
Travel Time (s)						15.9			16.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		4		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	7	5	4	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	17.0	26.0	17.0	9.0	26.0	44.0	44.0	9.0	27.0	27.0
Total Split (%)	24.3%	37.1%	24.3%	12.9%	37.1%	62.9%	62.9%	12.9%	38.6%	38.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 49.9
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd



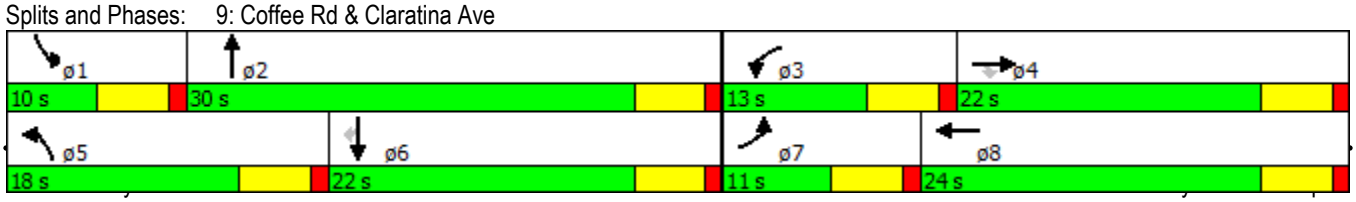
9: Coffee Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	380	220	70	800	60	360	410	60	30	390	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		0	300		0	300		300
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1474			3364			1337			1327	
Travel Time (s)		22.3			41.7			20.3			20.1	
Confl. Peds. (#/hr)						5						5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	21.0
Total Split (s)	11.0	22.0	22.0	13.0	24.0		18.0	30.0		10.0	22.0	22.0
Total Split (%)	14.7%	29.3%	29.3%	17.3%	32.0%		24.0%	40.0%		13.3%	29.3%	29.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 68.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Coffee Rd & Claratina Ave



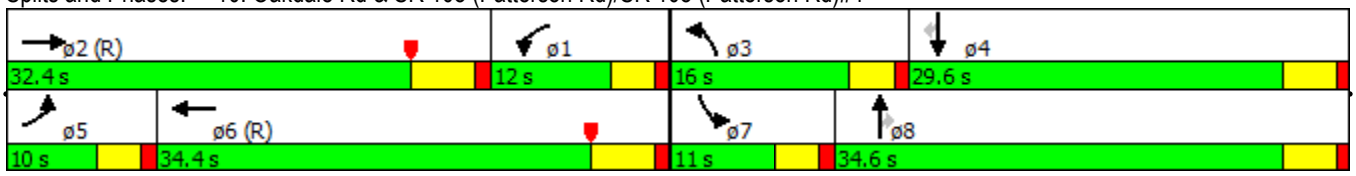
10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	170	20	150	500	40	120	50	80	50	60	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		0	200		0	150		75
Storage Lanes	1		0	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3274			2623			2223	
Travel Time (s)		42.0			63.8			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	10.0	32.4		12.0	34.4		16.0	34.6	34.6	11.0	29.6	29.6
Total Split (%)	11.1%	36.0%		13.3%	38.2%		17.8%	38.4%	38.4%	12.2%	32.9%	32.9%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	-0.6	-0.6	0.0	-0.6	-0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4



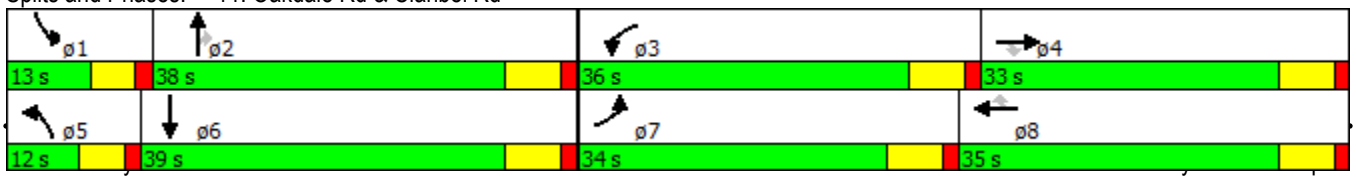
11: Oakdale Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	30	80	390	10	50	30	220	230	40	450	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	34.0	33.0	33.0	36.0	35.0	35.0	12.0	38.0	38.0	13.0	39.0	
Total Split (%)	28.3%	27.5%	27.5%	30.0%	29.2%	29.2%	10.0%	31.7%	31.7%	10.8%	32.5%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 62.1
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



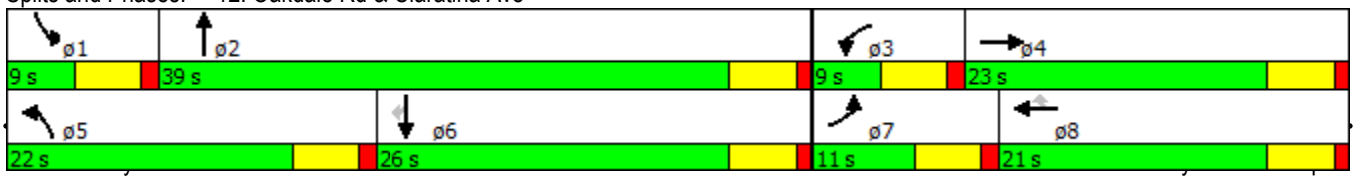
12: Oakdale Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	100	200	10	180	10	550	350	20	10	600	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	500		0	300		300
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1440			1326			2104			576	
Travel Time (s)		17.9			16.4			31.9			8.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0
Total Split (s)	11.0	23.0		9.0	21.0	21.0	22.0	39.0		9.0	26.0	26.0
Total Split (%)	13.8%	28.8%		11.3%	26.3%	26.3%	27.5%	48.8%		11.3%	32.5%	32.5%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 68.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Oakdale Rd & Claratina Ave



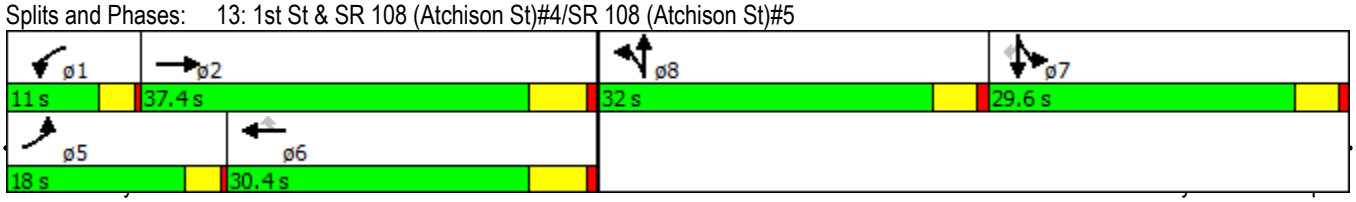
13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	110	20	20	230	170	50	190	40	140	130	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	75		150	250		0	175		100
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3283			3394			1265			1732	
Travel Time (s)		64.0			66.1			28.8			39.4	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	23%	23%	23%	23%	23%	23%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Detector Phase	5	2		1	6	6	8	8		7	7	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	29.6
Total Split (s)	18.0	37.4		11.0	30.4	30.4	32.0	32.0		29.6	29.6	29.6
Total Split (%)	16.4%	34.0%		10.0%	27.6%	27.6%	29.1%	29.1%		26.9%	26.9%	26.9%
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	-0.6	-0.6		-0.6	-0.6	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 78.2
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5



14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	50	140	10	50	30	20	270	20	20	360	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	CBD
Control Type: Unsignalized	

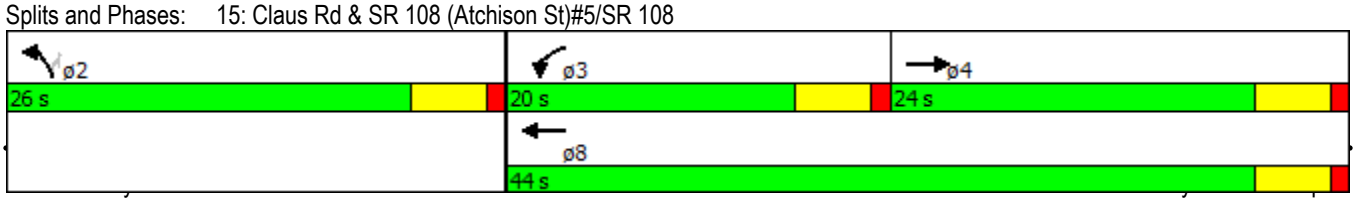
15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	120	120	80	390	60	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		300	400		0	150
Storage Lanes		1	1		1	1
Taper Length (ft)			60		60	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	883			934	1620	
Travel Time (s)	17.2			14.2	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	21.0		9.0	21.0	21.0	21.0
Total Split (s)	24.0		20.0	44.0	26.0	26.0
Total Split (%)	34.3%		28.6%	62.9%	37.1%	37.1%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 32.7
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108



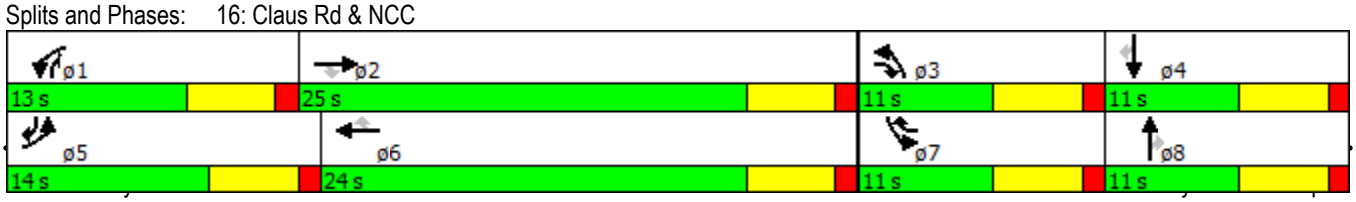
16: Claus Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	860	150	220	800	40	230	120	220	50	160	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		1000	520		720
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1700			1204			1344	
Travel Time (s)		14.4			21.1			14.9			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	14.0	25.0	11.0	13.0	24.0	11.0	11.0	11.0	13.0	11.0	11.0	14.0
Total Split (%)	23.3%	41.7%	18.3%	21.7%	40.0%	18.3%	18.3%	18.3%	21.7%	18.3%	18.3%	23.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 56.3
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & NCC



17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	50	10	10	120	40	10	10	10	40	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	200		0	0		300
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			45	
Link Distance (ft)		2918			5382			1629			864	
Travel Time (s)		36.2			66.7			37.0			13.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

18: Bentley & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	100	10	20	220	20	20	10	10	10	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		20	0		20
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		2761			2529			1526			1244	
Travel Time (s)		62.8			31.4			23.1			18.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

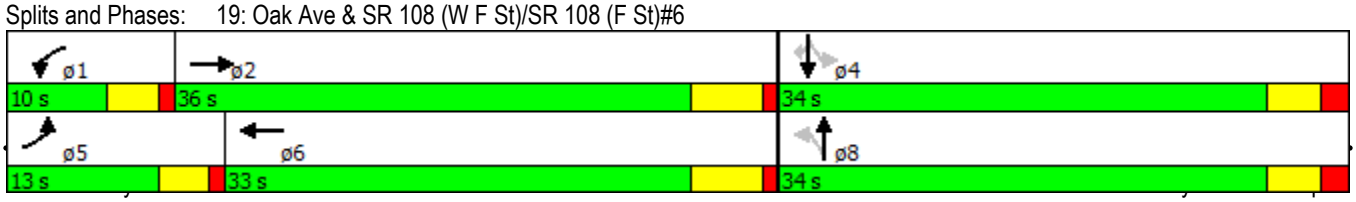
19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	380	50	40	360	70	90	60	20	110	60	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	250		300	250		0	100		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		1648			2595			1311			1681	
Travel Time (s)		28.1			59.0			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	19%	2%	2%	19%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3		9.0	29.3		32.0	32.0		34.0	34.0	34.0
Total Split (s)	13.0	36.0		10.0	33.0		34.0	34.0		34.0	34.0	34.0
Total Split (%)	16.3%	45.0%		12.5%	41.3%		42.5%	42.5%		42.5%	42.5%	42.5%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 40.4
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6



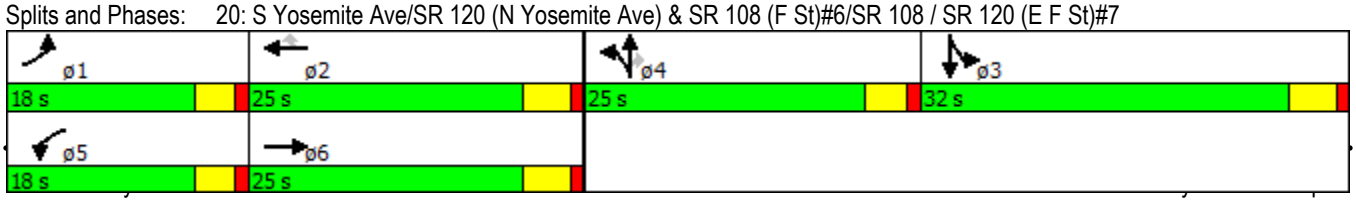
20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	280	60	80	270	270	100	290	70	260	390	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2713			2600			1983			5906	
Travel Time (s)		74.0			59.1			45.1			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	19%	19%	19%	19%	19%	19%	20%	20%	20%	20%	20%	20%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	18.0	25.0		18.0	25.0	25.0	25.0	25.0	25.0	32.0	32.0	
Total Split (%)	18.0%	25.0%		18.0%	25.0%	25.0%	25.0%	25.0%	25.0%	32.0%	32.0%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-0.6		0.0	-0.6	-0.6		-0.2	-0.2		-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 89.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7



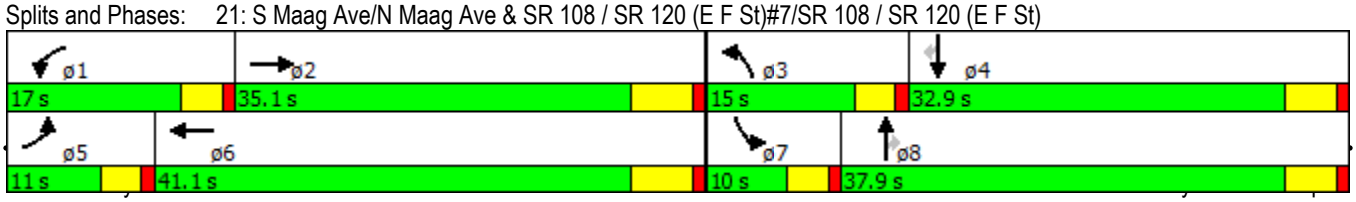
21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	250	150	150	320	40	260	110	80	30	150	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2050			2745			1922			2964	
Travel Time (s)		39.9			53.5			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	19%	2%	2%	19%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	11.0	35.1		17.0	41.1		15.0	37.9	37.9	10.0	32.9	32.9
Total Split (%)	11.0%	35.1%		17.0%	41.1%		15.0%	37.9%	37.9%	10.0%	32.9%	32.9%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	-0.9	-0.9	0.0	-0.9	-0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 63.4
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)



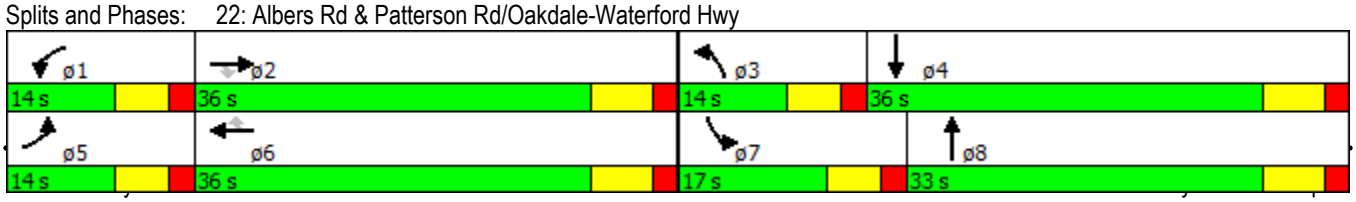
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	30	30	10	70	240	20	560	10	90	500	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2285			1544			2239	
Travel Time (s)		70.0			28.3			19.1			27.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	29.5	29.5	14.0	29.5	29.5	14.0	29.5		14.0	29.5	
Total Split (s)	14.0	36.0	36.0	14.0	36.0	36.0	14.0	33.0		17.0	36.0	
Total Split (%)	14.0%	36.0%	36.0%	14.0%	36.0%	36.0%	14.0%	33.0%		17.0%	36.0%	
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5		4.0	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5	-2.5	-2.0	-2.5	-2.5	-2.0	-2.5		-2.0	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 58.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



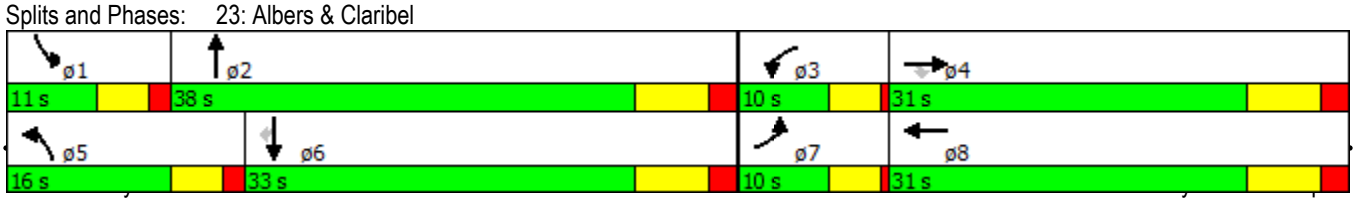
23: Albers & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	40	50	30	170	10	60	460	30	10	520	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	18%	18%	18%	18%	18%	18%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	10.0	31.0	31.0	10.0	31.0		16.0	38.0		11.0	33.0	33.0
Total Split (%)	11.1%	34.4%	34.4%	11.1%	34.4%		17.8%	42.2%		12.2%	36.7%	36.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 63.2
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel



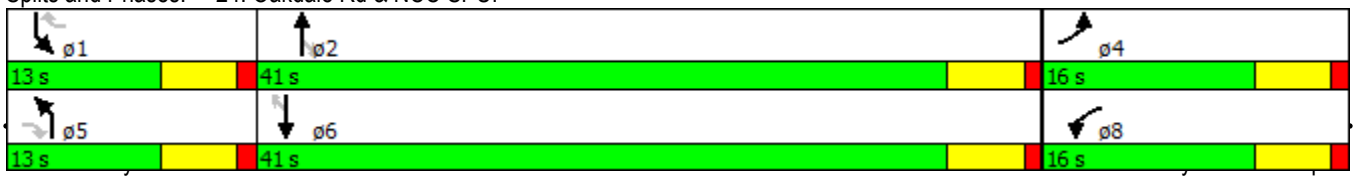
24: Oakdale Rd & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	50	30	180	30	30	400	390	30	550	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		650			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	16.0	13.0	16.0	13.0	13.0	41.0	41.0	13.0	41.0	41.0
Total Split (%)	22.9%	18.6%	22.9%	18.6%	18.6%	58.6%	58.6%	18.6%	58.6%	58.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 37.6
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 24: Oakdale Rd & NCC SPUI



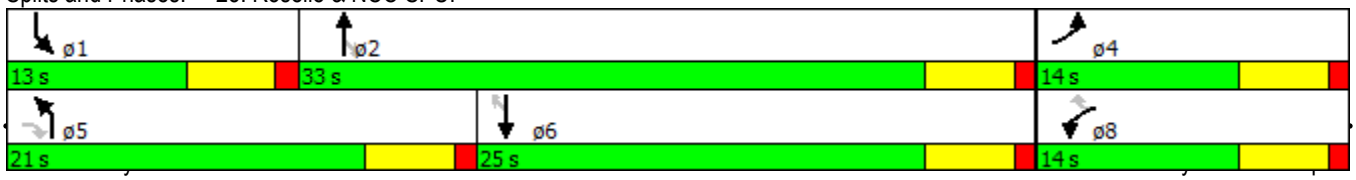
25: Roselle & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	10	90	150	40	150	260	190	40	420	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		550			550		
Storage Lanes	2		1		1			1		
Taper Length (ft)	60		60		60			60		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						782			1192	
Travel Time (s)						11.8			18.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		8			2			6
Detector Phase	4	5	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	14.0	21.0	14.0	14.0	21.0	33.0	33.0	13.0	25.0	25.0
Total Split (%)	23.3%	35.0%	23.3%	23.3%	35.0%	55.0%	55.0%	21.7%	41.7%	41.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 43.2
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Roselle & NCC SPUI



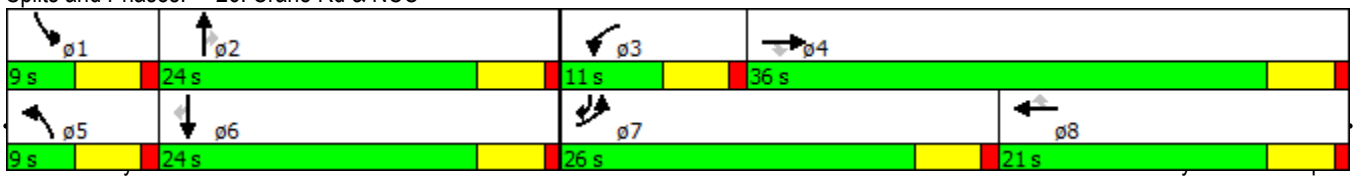
26: Crane Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	500	620	10	30	380	10	10	30	70	20	30	670
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		630	930		630	150		300	200		350
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		1674			1432			1026			2838	
Travel Time (s)		20.8			17.8			15.5			64.5	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	9.0
Total Split (s)	26.0	36.0	36.0	11.0	21.0	21.0	9.0	24.0	24.0	9.0	24.0	26.0
Total Split (%)	32.5%	45.0%	45.0%	13.8%	26.3%	26.3%	11.3%	30.0%	30.0%	11.3%	30.0%	32.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 47.5
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Crane Rd & NCC



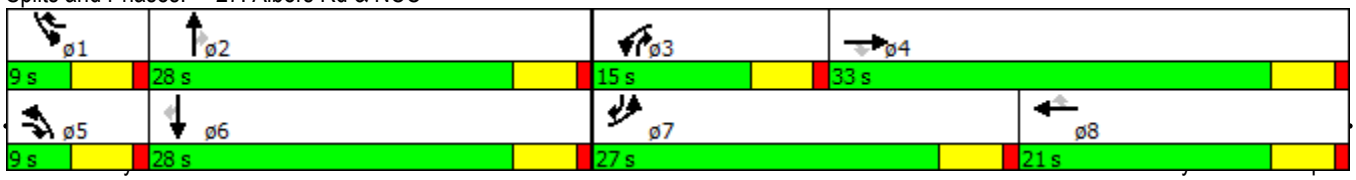
27: Albers Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	570	100	40	180	130	10	10	620	200	10	440	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		750	720		670	200		300	200		350
Storage Lanes	1		1	2		1	1		1	1		2
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1689			4701			2239			2265	
Travel Time (s)		20.9			58.3			27.8			28.1	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0
Total Split (s)	27.0	33.0	9.0	15.0	21.0	9.0	9.0	28.0	15.0	9.0	28.0	27.0
Total Split (%)	31.8%	38.8%	10.6%	17.6%	24.7%	10.6%	10.6%	32.9%	17.6%	10.6%	32.9%	31.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 64.1
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Albers Rd & NCC



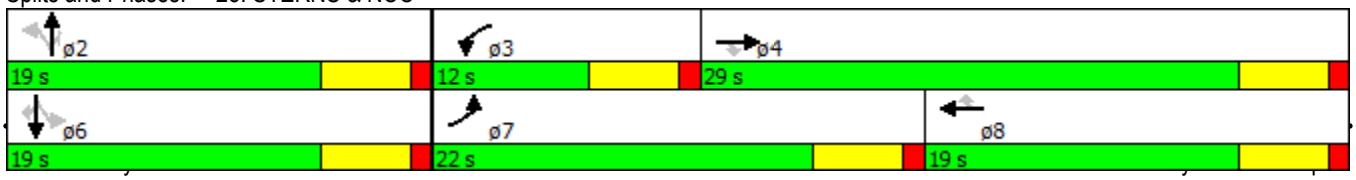
28: STERNS & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	190	10	10	210	10	30	10	10	10	10	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	870		570	570		570	0		100	0		300
Storage Lanes	1		1	1		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2064			2854			360			726	
Travel Time (s)		25.6			35.4			8.2			16.5	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	22.0	29.0	29.0	12.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Total Split (%)	36.7%	48.3%	48.3%	20.0%	31.7%	31.7%	31.7%	31.7%	31.7%	31.7%	31.7%	31.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	None	None	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 35.1
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 28: STERNS & NCC



29: NCC & SR 120/108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	150	70	160	160	20	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	820		0	0
Storage Lanes		0	0		1	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2123			1212	1719	
Travel Time (s)	26.3			15.0	21.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Yield			Yield	Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

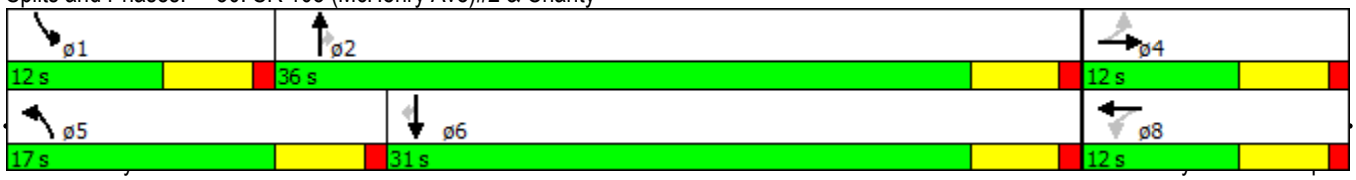
30: SR 108 (McHenry Ave)#2 & Charity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	10	10	10	80	410	10	10	720	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1303			1150			2456	
Travel Time (s)		21.7			29.6			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	12.0	12.0		12.0	12.0		17.0	36.0	36.0	12.0	31.0	31.0
Total Split (%)	20.0%	20.0%		20.0%	20.0%		28.3%	60.0%	60.0%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 36.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity



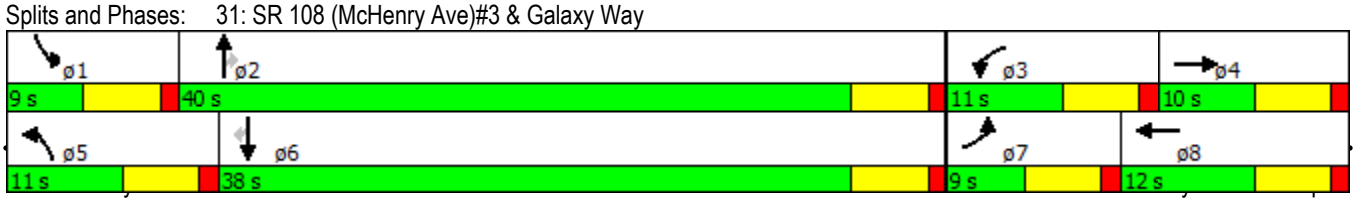
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	30	10	40	30	400	20	30	790	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	9.0	10.0		11.0	12.0		11.0	40.0	40.0	9.0	38.0	38.0
Total Split (%)	12.9%	14.3%		15.7%	17.1%		15.7%	57.1%	57.1%	12.9%	54.3%	54.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 42.7
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	20	10	10	10	220	10	10	530	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1322			2052			1060			1405	
Travel Time (s)		30.0			46.6			16.1			21.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	10	10	10	20	10	560	10	20	580	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		796			1164			1312			1052	
Travel Time (s)		18.1			26.5			19.9			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	30	20	10	20	10	770	10	10	740	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			411			1462	
Travel Time (s)		15.7			12.6			6.2			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

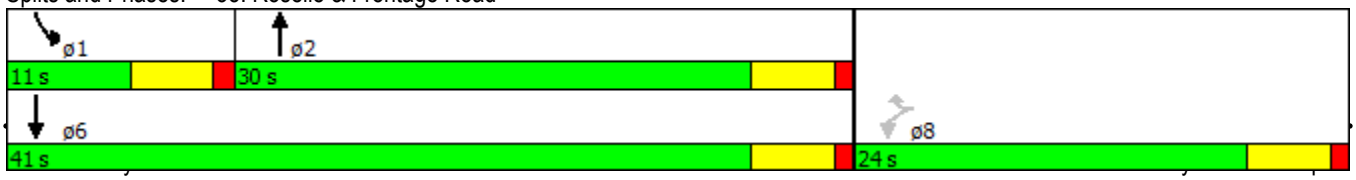
35: Roselle & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	20	100	500	20	20	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	24.0	24.0	30.0		11.0	41.0
Total Split (%)	36.9%	36.9%	46.2%		16.9%	63.1%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 36.7
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road



36: Davis & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	60	10	10	40	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

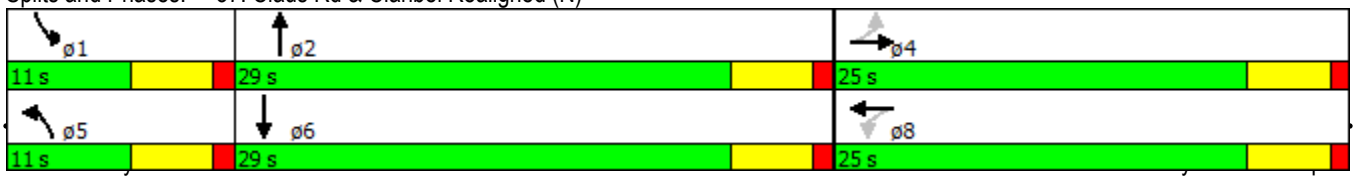
37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	40	80	10	10	10	210	100	20	340	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	25.0	25.0		25.0	25.0		11.0	29.0		11.0	29.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%		16.9%	44.6%		16.9%	44.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 31.5
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)



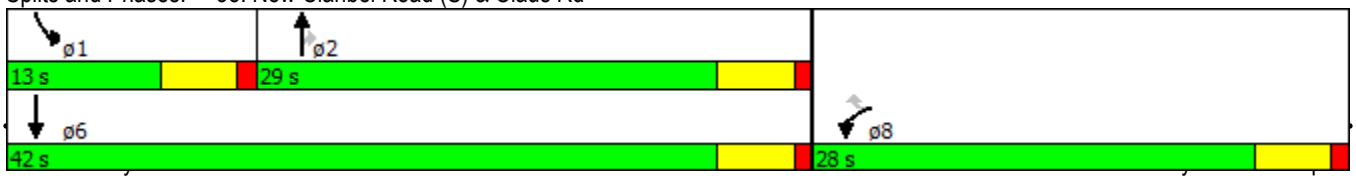
38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	60	200	370	30	90	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			904
Travel Time (s)	12.0		43.7			11.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	9.0	21.0
Total Split (s)	28.0	28.0	29.0	29.0	13.0	42.0
Total Split (%)	40.0%	40.0%	41.4%	41.4%	18.6%	60.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 38.9
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 38: New Claribel Road (S) & Claus Rd



39: STERNS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	110	10	10	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			1302			726			973	
Travel Time (s)		16.1			29.6			16.5			22.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

40: NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	190	10	10	210	10	10	10	10	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	720		720	720		720	300		0	300		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3172			3492			725			850	
Travel Time (s)		39.3			43.3			16.5			19.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	0	0	470	130	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	0		1	0	
Taper Length (ft)	60				60	
Link Speed (mph)	30		55			55
Link Distance (ft)	1305		1260			2486
Travel Time (s)	29.7		15.6			30.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	470	0	0	0	0	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2486			1462	745	
Travel Time (s)	30.8			18.1	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1200	450	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2484	1481		1250	
Travel Time (s)		30.8	18.4		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	600	0	0	0	1500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	3
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2690	1260		432	
Travel Time (s)		33.3	15.6		5.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

65: NCC SPUI

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	940	100	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2138			2475	1369	
Travel Time (s)	26.5			30.7	31.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	940	0	0	0	0	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	55	
Link Distance (ft)	2475			727	1175	
Travel Time (s)	30.7			16.5	14.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

84: NCC SPUI

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1090	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1306			2501	1150	
Travel Time (s)	29.7			31.0	14.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	1090	0	0	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		868	2501		1267	
Travel Time (s)		10.8	31.0		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	1200	0	0	0	0	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2484		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1080	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	1080	0	0	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2286	2226		1058	
Travel Time (s)		28.3	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	1280	0	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

127: NCC SPUI & NCC

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	620	80	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2272			2293	1098	
Travel Time (s)	28.2			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	620	0	0	0	0	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

157: Crane Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	20	0	0	10	0	100	60	0	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		100	0		100
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		164			172			864			1026	
Travel Time (s)		3.7			3.9			13.1			15.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	500	0	0	0	0	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2052			612	1091	
Travel Time (s)	25.4			7.6	16.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	500	100	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	1627			2052	1054	
Travel Time (s)	20.2			25.4	24.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)		10%				
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1130	320	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2152	1364		1081	
Travel Time (s)		26.7	16.9		24.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	1130	0	0	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		1496	2152		450	
Travel Time (s)		18.5	26.7		10.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

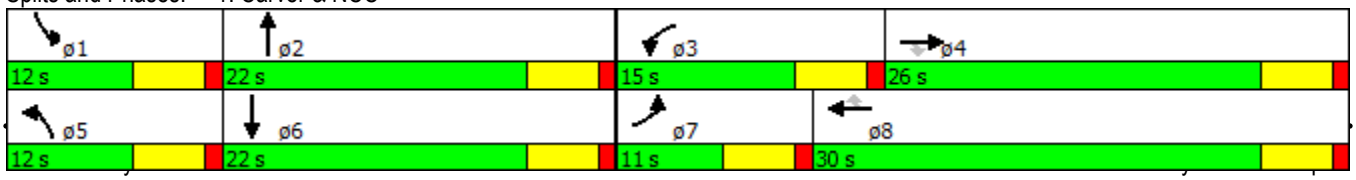
1: Carver & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	1040	150	130	980	50	80	90	100	60	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	11.0	26.0	26.0	15.0	30.0	30.0	12.0	22.0		12.0	22.0	
Total Split (%)	14.7%	34.7%	34.7%	20.0%	40.0%	40.0%	16.0%	29.3%		16.0%	29.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 64.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC



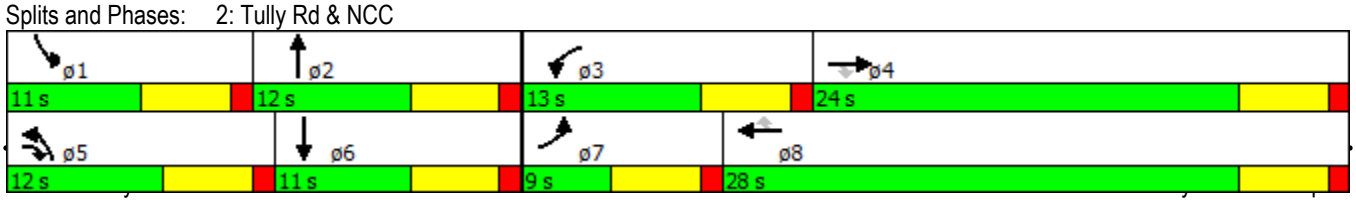
2: Tully Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	1010	170	350	880	50	260	160	460	60	140	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Total Split (s)	9.0	24.0	12.0	13.0	28.0	28.0	12.0	12.0		11.0	11.0	
Total Split (%)	15.0%	40.0%	20.0%	21.7%	46.7%	46.7%	20.0%	20.0%		18.3%	18.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 55.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



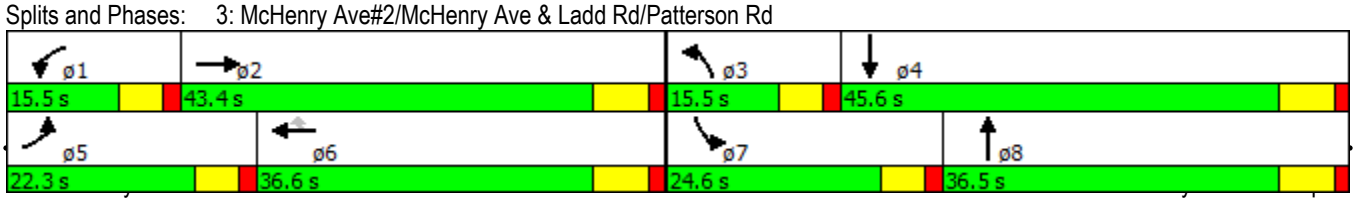
3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	170	20	10	250	90	60	370	10	270	420	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	36.5		15.5	36.5	36.5	15.5	36.5		15.5	36.5	
Total Split (s)	22.3	43.4		15.5	36.6	36.6	15.5	36.5		24.6	45.6	
Total Split (%)	18.6%	36.2%		12.9%	30.5%	30.5%	12.9%	30.4%		20.5%	38.0%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 98.9
Natural Cycle: 115
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd



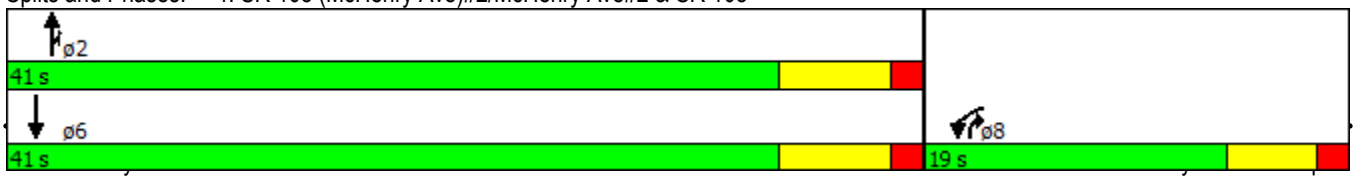
4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	130	10	430	350	0	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	19.0		41.0			41.0
Total Split (%)	31.7%		68.3%			68.3%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 44.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108



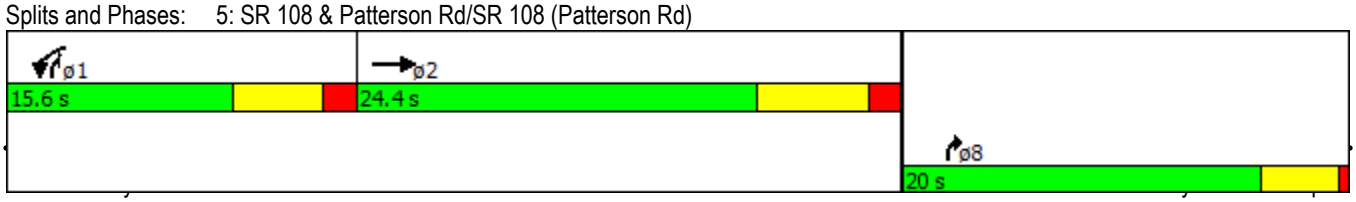
5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	440	10	130	350	0	350	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		60		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	8%	8%	8%	8%	9%	9%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	24.4		15.6				20.0
Total Split (%)	40.7%		26.0%				33%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 53.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)



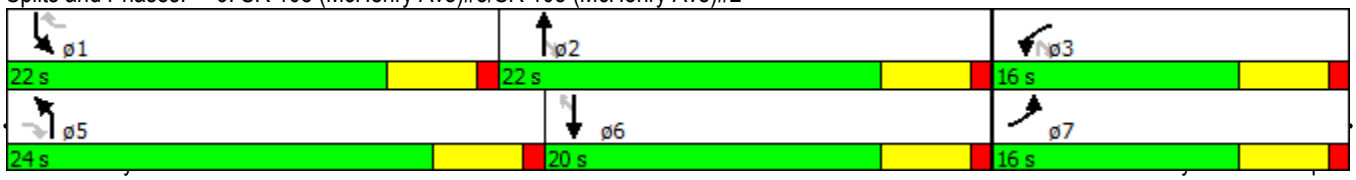
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	210	200	220	170	130	610	530	70	480	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		2		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			No			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	16.0	24.0	16.0	22.0	24.0	22.0		22.0	20.0	20.0
Total Split (%)	26.7%	40.0%	26.7%	36.7%	40.0%	36.7%		36.7%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 50.3
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2



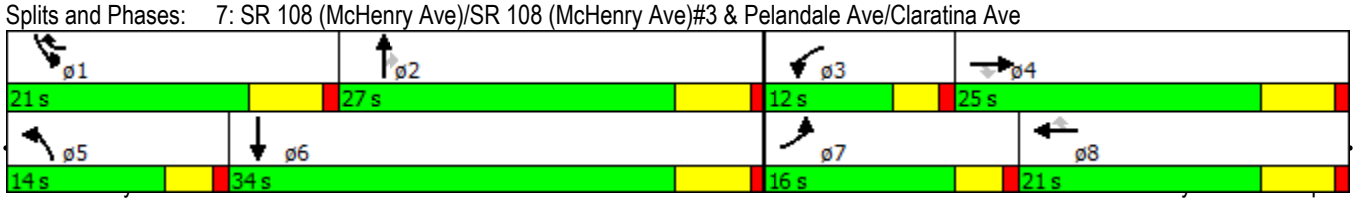
7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	1080	340	220	590	160	290	1010	190	490	930	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		350	300		350	225		200	500		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	60			60			60			120		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4998			3545			3932			1543	
Travel Time (s)		75.7			53.7			67.0			26.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.0	15.7	15.7	9.0	15.7	10.7	9.0	15.7	15.7	10.7	15.7	
Total Split (s)	16.0	25.0	25.0	12.0	21.0	21.0	14.0	27.0	27.0	21.0	34.0	
Total Split (%)	18.8%	29.4%	29.4%	14.1%	24.7%	24.7%	16.5%	31.8%	31.8%	24.7%	40.0%	
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 84.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave



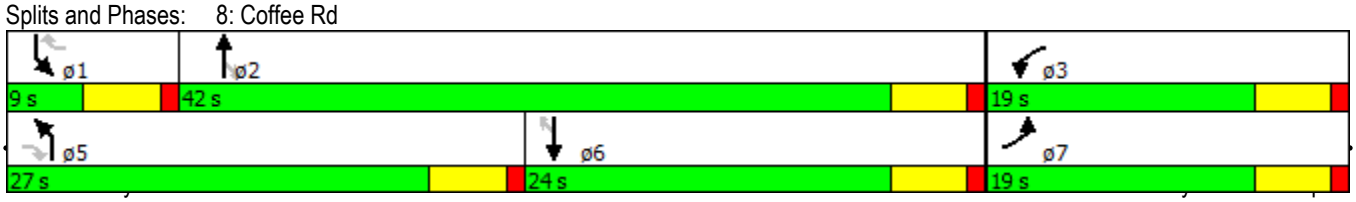
8: Coffee Rd

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	310	170	220	20	220	200	330	20	180	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		600			650		
Storage Lanes	1		1		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1052			1060	
Travel Time (s)						15.9			16.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	7	5	3	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	19.0	27.0	19.0	9.0	27.0	42.0	42.0	9.0	24.0	24.0
Total Split (%)	27.1%	38.6%	27.1%	12.9%	38.6%	60.0%	60.0%	12.9%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 46.1
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd



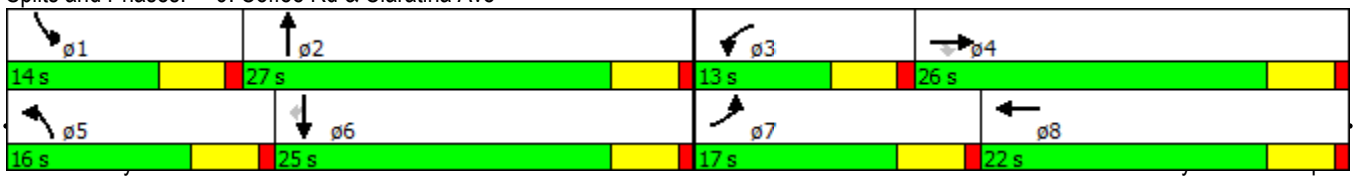
9: Coffee Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	280	930	480	90	480	60	320	420	70	70	180	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		0	300		0	300		300
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1474			3364			1337			1327	
Travel Time (s)		22.3			41.7			20.3			20.1	
Confl. Peds. (#/hr)						5						5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	44%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	21.0
Total Split (s)	17.0	26.0	26.0	13.0	22.0		16.0	27.0		14.0	25.0	25.0
Total Split (%)	21.3%	32.5%	32.5%	16.3%	27.5%		20.0%	33.8%		17.5%	31.3%	31.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 69.3
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Coffee Rd & Claratina Ave



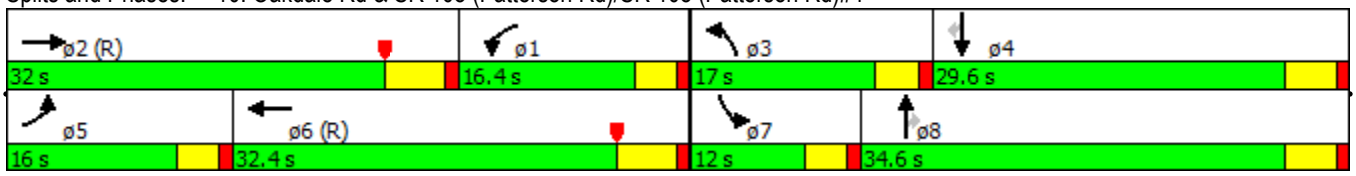
10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	620	110	300	300	30	140	70	210	50	50	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		0	200		0	150		75
Storage Lanes	1		0	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3274			2623			2223	
Travel Time (s)		42.0			63.8			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	16.0	32.0		16.4	32.4		17.0	34.6	34.6	12.0	29.6	29.6
Total Split (%)	16.8%	33.7%		17.3%	34.1%		17.9%	36.4%	36.4%	12.6%	31.2%	31.2%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	-0.6	-0.6	0.0	-0.6	-0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4



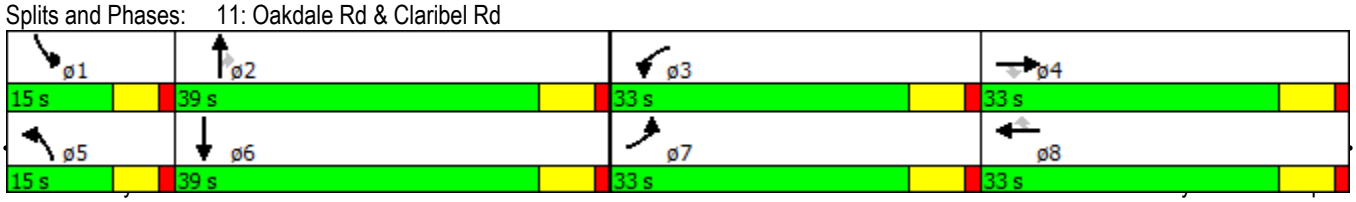
11: Oakdale Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	20	100	370	10	40	60	490	380	60	450	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	15.0	39.0	39.0	15.0	39.0	
Total Split (%)	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	12.5%	32.5%	32.5%	12.5%	32.5%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 68.8
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



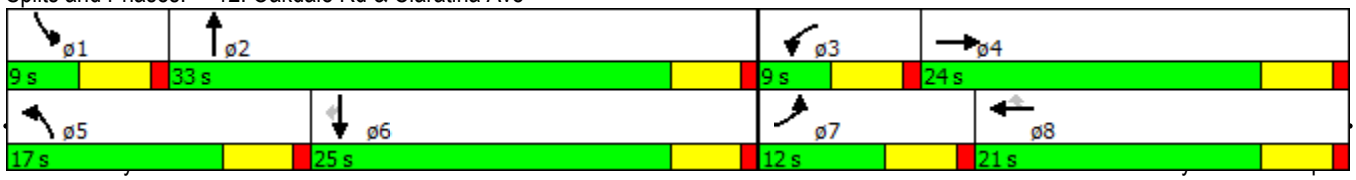
12: Oakdale Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	300	690	20	190	20	330	670	40	10	580	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	500		0	300		300
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1440			1326			2104			597	
Travel Time (s)		17.9			16.4			31.9			9.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0
Total Split (s)	12.0	24.0		9.0	21.0	21.0	17.0	33.0		9.0	25.0	25.0
Total Split (%)	16.0%	32.0%		12.0%	28.0%	28.0%	22.7%	44.0%		12.0%	33.3%	33.3%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 62.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Oakdale Rd & Claratina Ave



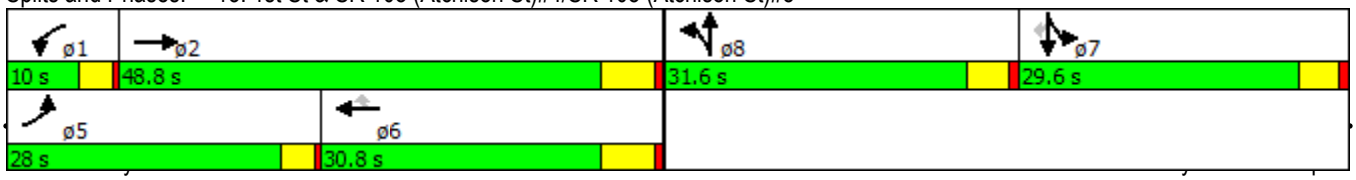
13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	380	30	30	150	120	60	220	30	220	180	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	75		150	250		0	175		100
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3283			3394			1265			1732	
Travel Time (s)		64.0			66.1			28.8			39.4	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	16%	16%	16%	16%	16%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Detector Phase	5	2		1	6	6	8	8		7	7	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	29.6
Total Split (s)	28.0	48.8		10.0	30.8	30.8	31.6	31.6		29.6	29.6	29.6
Total Split (%)	23.3%	40.7%		8.3%	25.7%	25.7%	26.3%	26.3%		24.7%	24.7%	24.7%
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	-0.6	-0.6		-0.6	-0.6	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 95.5
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5



14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	40	70	20	60	20	130	360	30	30	310	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	CBD
Control Type: Unsignalized	

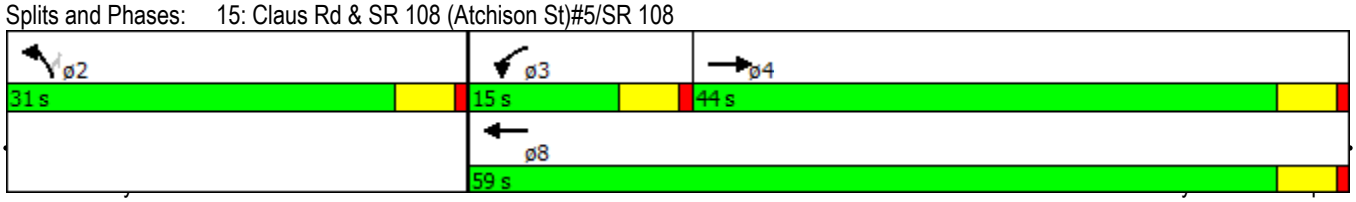
15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	490	170	40	210	50	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		300	400		0	150
Storage Lanes		1	1		1	1
Taper Length (ft)			60		60	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	883			934	1620	
Travel Time (s)	17.2			14.2	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	21.0		9.0	21.0	21.0	21.0
Total Split (s)	44.0		15.0	59.0	31.0	31.0
Total Split (%)	48.9%		16.7%	65.6%	34.4%	34.4%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 36.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108



16: Claus Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	770	330	370	750	100	380	150	280	30	200	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		1000	520		720
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1700			1204			1344	
Travel Time (s)		14.4			21.1			14.9			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	13.0	23.0	13.0	13.0	23.0	11.0	13.0	13.0	13.0	11.0	11.0	13.0
Total Split (%)	21.7%	38.3%	21.7%	21.7%	38.3%	18.3%	21.7%	21.7%	21.7%	18.3%	18.3%	21.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 57
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & NCC

17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	120	10	10	100	20	10	10	10	40	10	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	200		0	0		300
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			45	
Link Distance (ft)		2918			5382			1523			860	
Travel Time (s)		36.2			66.7			34.6			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

18: Bentley & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	210	20	30	110	20	10	30	10	20	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		20	0		20
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		2761			2529			1526			1244	
Travel Time (s)		62.8			31.4			23.1			18.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

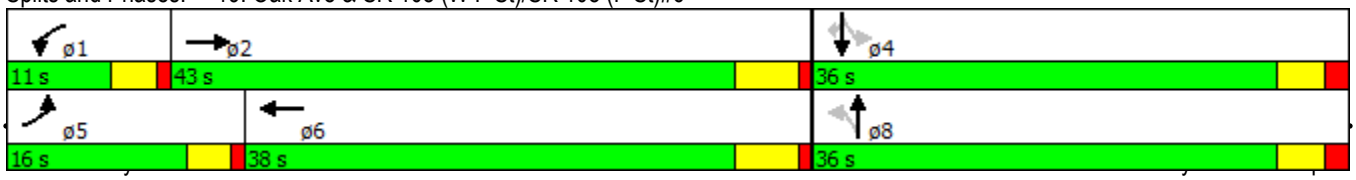
19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	590	40	30	530	70	90	50	60	90	40	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	250		300	250		0	100		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		1648			2595			1311			1681	
Travel Time (s)		28.1			59.0			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	13%	2%	2%	13%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3		9.0	29.3		32.0	32.0		34.0	34.0	34.0
Total Split (s)	16.0	43.0		11.0	38.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	17.8%	47.8%		12.2%	42.2%		40.0%	40.0%		40.0%	40.0%	40.0%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 46.7
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6



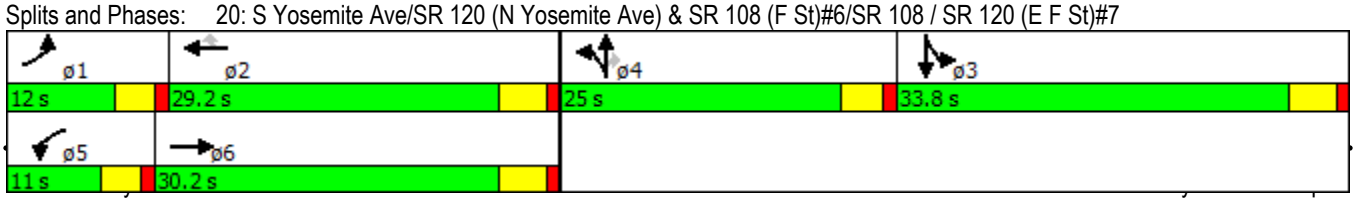
20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	380	50	70	300	370	100	420	110	310	390	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2713			2600			1983			5906	
Travel Time (s)		74.0			59.1			45.1			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	15%	15%	15%	15%	15%	15%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	12.0	30.2		11.0	29.2	29.2	25.0	25.0	25.0	33.8	33.8	
Total Split (%)	12.0%	30.2%		11.0%	29.2%	29.2%	25.0%	25.0%	25.0%	33.8%	33.8%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-0.6		0.0	-0.6	-0.6		-0.2	-0.2		-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 93.8
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7



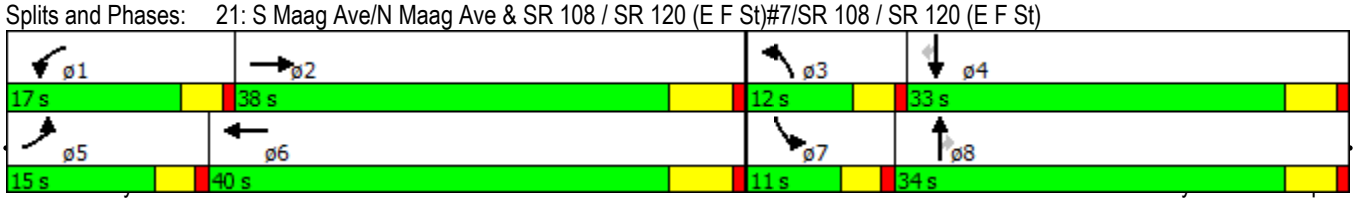
21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	380	160	110	420	50	140	150	170	50	120	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2050			2745			1922			2964	
Travel Time (s)		39.9			53.5			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	13%	2%	2%	13%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	15.0	38.0		17.0	40.0		12.0	34.0	34.0	11.0	33.0	33.0
Total Split (%)	15.0%	38.0%		17.0%	40.0%		12.0%	34.0%	34.0%	11.0%	33.0%	33.0%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	-0.9	-0.9	0.0	-0.9	-0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 60.3
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)



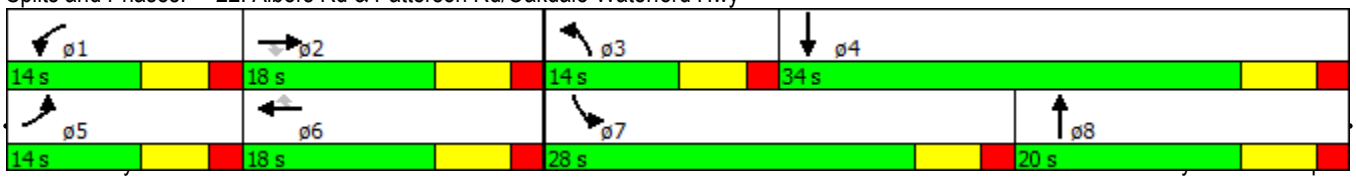
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	100	10	10	20	200	30	470	10	340	550	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2285			1544			2238	
Travel Time (s)		70.0			28.3			19.1			27.7	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	14.5	14.5	14.0	14.5	14.5	14.0	14.5		14.0	14.5	
Total Split (s)	14.0	18.0	18.0	14.0	18.0	18.0	14.0	20.0		28.0	34.0	
Total Split (%)	17.5%	22.5%	22.5%	17.5%	22.5%	22.5%	17.5%	25.0%		35.0%	42.5%	
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5		4.0	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5	-2.5	-2.0	-2.5	-2.5	-2.0	-2.5		-2.0	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 70.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



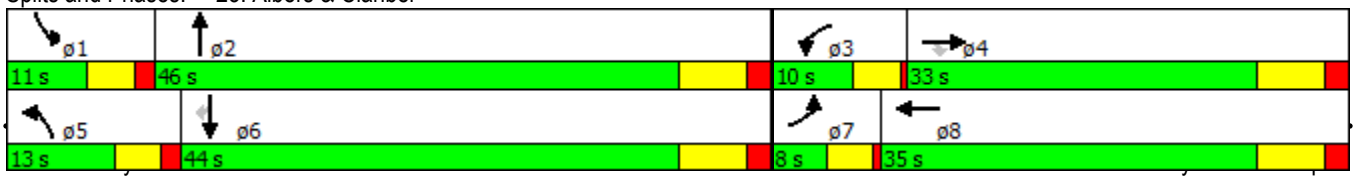
23: Albers & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	130	100	20	90	10	50	570	30	10	470	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	8.0	33.0	33.0	10.0	35.0		13.0	46.0		11.0	44.0	44.0
Total Split (%)	8.0%	33.0%	33.0%	10.0%	35.0%		13.0%	46.0%		11.0%	44.0%	44.0%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 54
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel



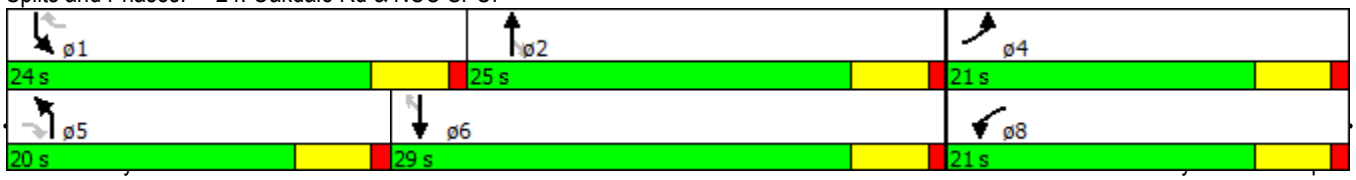
24: Oakdale Rd & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	330	120	220	150	10	450	210	50	590	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	21.0	20.0	21.0	24.0	20.0	25.0	25.0	24.0	29.0	29.0
Total Split (%)	30.0%	28.6%	30.0%	34.3%	28.6%	35.7%	35.7%	34.3%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 48.5
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 24: Oakdale Rd & NCC SPUI



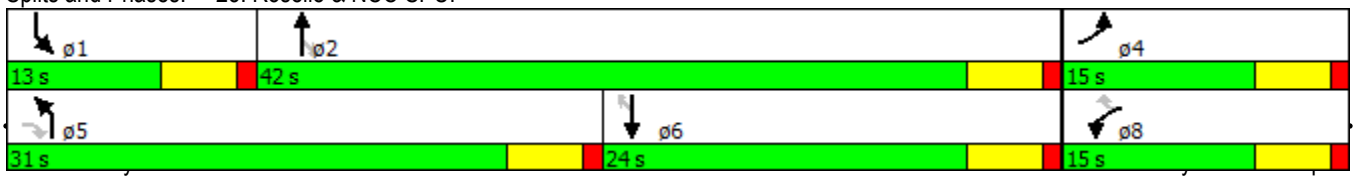
25: Roselle & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	50	250	110	70	120	400	210	50	320	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		400			550		
Storage Lanes	2		1		1			1		
Taper Length (ft)	60		60		60			60		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						782			1192	
Travel Time (s)						11.8			18.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		8			2			6
Detector Phase	4	5	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	15.0	31.0	15.0	15.0	31.0	42.0	42.0	13.0	24.0	24.0
Total Split (%)	21.4%	44.3%	21.4%	21.4%	44.3%	60.0%	60.0%	18.6%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 46.9
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Roselle & NCC SPUI



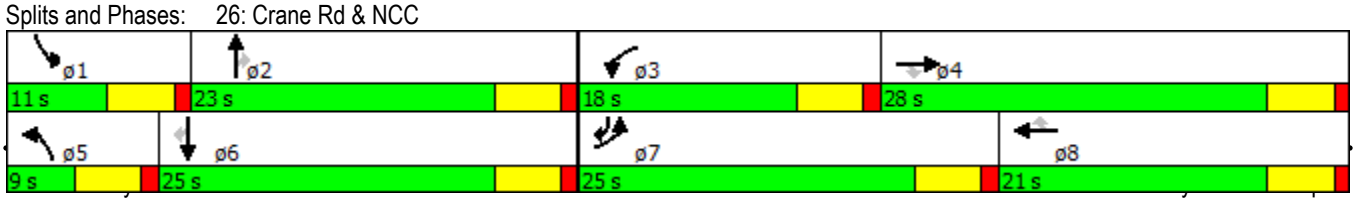
26: Crane Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	500	560	20	130	610	30	10	40	60	30	50	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		630	930		630	150		300	275		275
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		1673			1429			1026			2838	
Travel Time (s)		20.7			17.7			15.5			64.5	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	9.0
Total Split (s)	25.0	28.0	28.0	18.0	21.0	21.0	9.0	23.0	23.0	11.0	25.0	25.0
Total Split (%)	31.3%	35.0%	35.0%	22.5%	26.3%	26.3%	11.3%	28.8%	28.8%	13.8%	31.3%	31.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 53.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Crane Rd & NCC



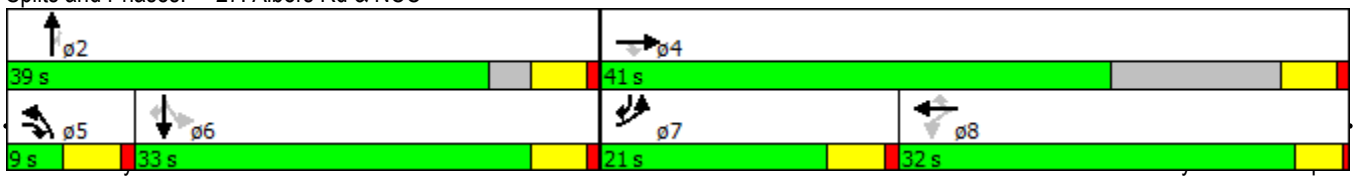
27: Albers Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	420	200	30	230	160	10	10	480	250	30	670	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		750	720		670	200		300	200		500
Storage Lanes	1		1	2		1	1		1	1		2
Taper Length (ft)	120			60			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1689			4647			2238			2284	
Travel Time (s)		20.9			57.6			27.7			28.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Perm	NA	Perm	Prot	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4	5		8		5	2			6	7
Permitted Phases			4	8		8			2	6		6
Detector Phase	7	4	5	8	8	8	5	2	2	6	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	33.0	9.0	32.0	32.0	32.0	9.0	33.0	33.0	33.0	33.0	9.0
Total Split (s)	21.0	41.0	9.0	32.0	32.0	32.0	9.0	39.0	39.0	33.0	33.0	21.0
Total Split (%)	22.1%	43.2%	9.5%	33.7%	33.7%	33.7%	9.5%	41.1%	41.1%	34.7%	34.7%	22.1%
Yellow Time (s)	4.0	4.0	4.0	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	0.5	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead	Lag	Lag	Lag	Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes
Recall Mode	None	Min	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 69.3
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Albers Rd & NCC



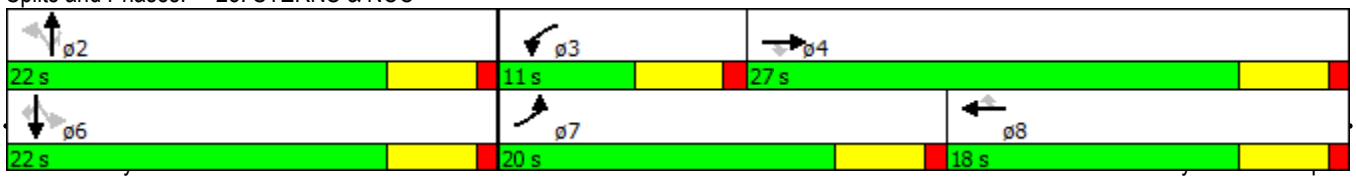
28: STERNS & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	310	40	10	240	10	30	10	10	10	10	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	870		570	570		570	0		100	0		300
Storage Lanes	1		1	1		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2064			2854			330			726	
Travel Time (s)		25.6			35.4			7.5			16.5	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	20.0	27.0	27.0	11.0	18.0	18.0	22.0	22.0	22.0	22.0	22.0	22.0
Total Split (%)	33.3%	45.0%	45.0%	18.3%	30.0%	30.0%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	None	None	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 37.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 28: STERNS & NCC



29: NCC & SR 120/108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	220	30	230	200	70	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	820		0	0
Storage Lanes		0	0		1	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2123			1264	1670	
Travel Time (s)	26.3			15.7	20.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Yield			Yield	Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

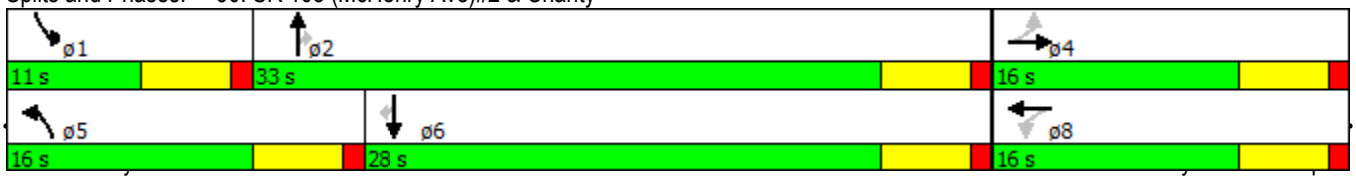
30: SR 108 (McHenry Ave)#2 & Charity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	10	100	20	20	20	80	890	20	20	580	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1294			1150			2456	
Travel Time (s)		21.7			29.4			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	16.0	16.0		16.0	16.0		16.0	33.0	33.0	11.0	28.0	28.0
Total Split (%)	26.7%	26.7%		26.7%	26.7%		26.7%	55.0%	55.0%	18.3%	46.7%	46.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 40
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity



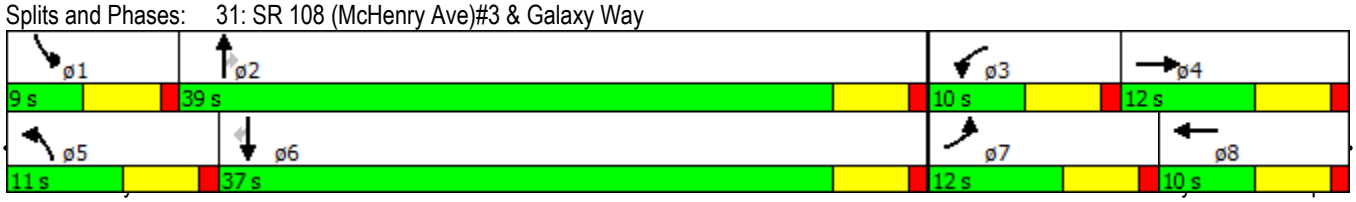
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	10	70	40	10	60	40	1130	40	60	780	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	12.0	12.0		10.0	10.0		11.0	39.0	39.0	9.0	37.0	37.0
Total Split (%)	17.1%	17.1%		14.3%	14.3%		15.7%	55.7%	55.7%	12.9%	52.9%	52.9%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 54.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	20	10	10	10	500	20	10	320	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1294			2106			1060			1388	
Travel Time (s)		29.4			47.9			16.1			21.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	10	10	10	20	10	710	10	20	530	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		814			1164			1312			1052	
Travel Time (s)		18.5			26.5			19.9			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	10	10	10	20	640	20	40	850	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			411			1462	
Travel Time (s)		15.7			12.6			6.2			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

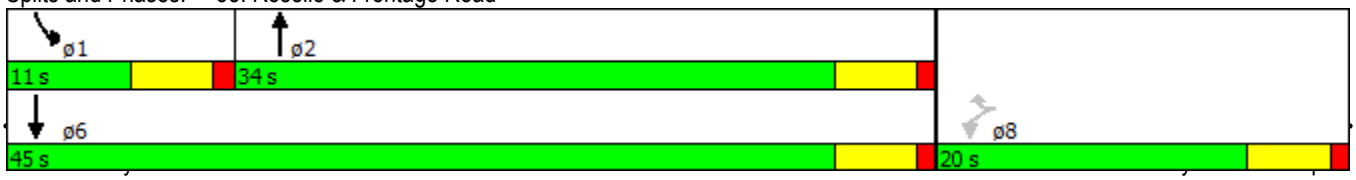
35: Roselle & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	40	690	40	40	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	20.0	20.0	34.0		11.0	45.0
Total Split (%)	30.8%	30.8%	52.3%		16.9%	69.2%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 40.2
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road



36: Davis & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	60	10	10	60	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

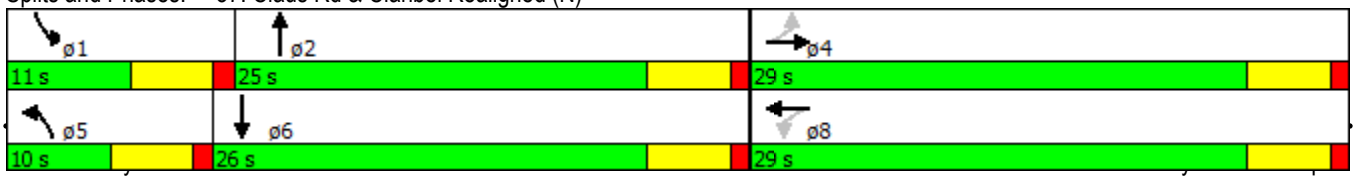
37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	10	10	210	10	30	30	450	30	40	250	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	29.0	29.0		29.0	29.0		10.0	25.0		11.0	26.0	
Total Split (%)	44.6%	44.6%		44.6%	44.6%		15.4%	38.5%		16.9%	40.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 44.9
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)



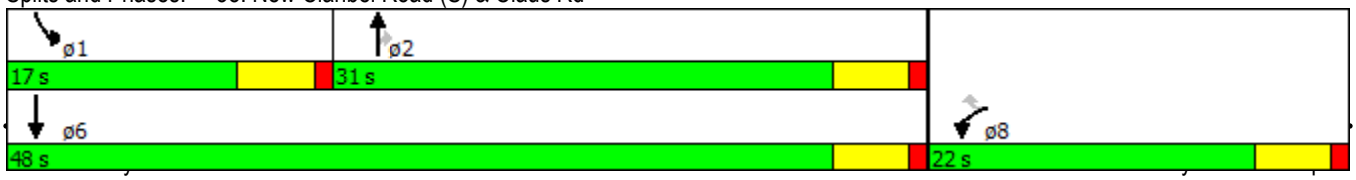
38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	150	660	60	260	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			904
Travel Time (s)	12.0		43.7			11.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	9.0	21.0
Total Split (s)	22.0	22.0	31.0	31.0	17.0	48.0
Total Split (%)	31.4%	31.4%	44.3%	44.3%	24.3%	68.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 48.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 38: New Claribel Road (S) & Claus Rd



39: STERNS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	30	30	10	30	30	90	30	30	90	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		694			1366			726			973	
Travel Time (s)		15.8			31.0			16.5			22.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

40: NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	310	10	10	240	10	10	10	10	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	720		720	720		720	300		0	300		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3196			3543			737			1023	
Travel Time (s)		39.6			43.9			16.8			23.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	0	0	1120	410	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	0		1	0	
Taper Length (ft)	60				60	
Link Speed (mph)	30		55			55
Link Distance (ft)	1305		1260			2486
Travel Time (s)	29.7		15.6			30.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1120	0	0	0	0	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2486			1462	745	
Travel Time (s)	30.8			18.1	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1000	390	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2484	1481		1250	
Travel Time (s)		30.8	18.4		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1100	300	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2138			2475	1369	
Travel Time (s)	26.5			30.7	31.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	1530	0	0	0	1280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	3
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2690	1260		432	
Travel Time (s)		33.3	15.6		5.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	1190	0	0	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		868	2501		1267	
Travel Time (s)		10.8	31.0		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1100	0	0	0	0	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	55	
Link Distance (ft)	2475			727	1175	
Travel Time (s)	30.7			16.5	14.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

84: NCC SPUI

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1190	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1306			2501	1150	
Travel Time (s)	29.7			31.0	14.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	1000	0	0	0	0	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2484		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

117: NCC SPUI

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	970	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	970	0	0	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2323	2226		1058	
Travel Time (s)		28.8	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

122: NCC

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	1370	0	1360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

125: NCC SPUI & NCC

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1140	450	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2296			2293	1098	
Travel Time (s)	28.5			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1140	0	0	0	0	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1240	0	0	0	0	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	45	
Link Distance (ft)	2052			622	1091	
Travel Time (s)	25.4			14.1	16.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

157: Crane Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	0	0	0	110	20	0	190	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		100	0		100
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		164			172			860			1026	
Travel Time (s)		3.7			3.9			13.0			15.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1240	480	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	30	
Link Distance (ft)	1627			2052	1054	
Travel Time (s)	20.2			46.6	24.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)		20%				
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1020	240	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		2152	1332		1081	
Travel Time (s)		48.9	16.5		24.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	1020	0	0	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		1496	2152		446	
Travel Time (s)		34.0	26.7		10.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

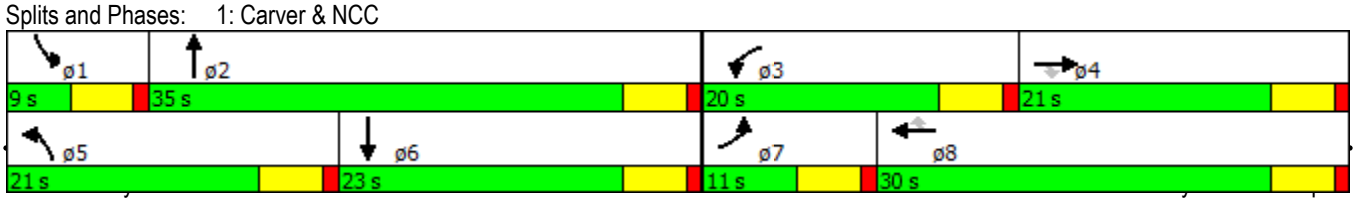
1: Carver & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	640	110	170	950	50	180	60	20	20	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	11.0	21.0	21.0	20.0	30.0	30.0	21.0	35.0		9.0	23.0	
Total Split (%)	12.9%	24.7%	24.7%	23.5%	35.3%	35.3%	24.7%	41.2%		10.6%	27.1%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 68.7
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC



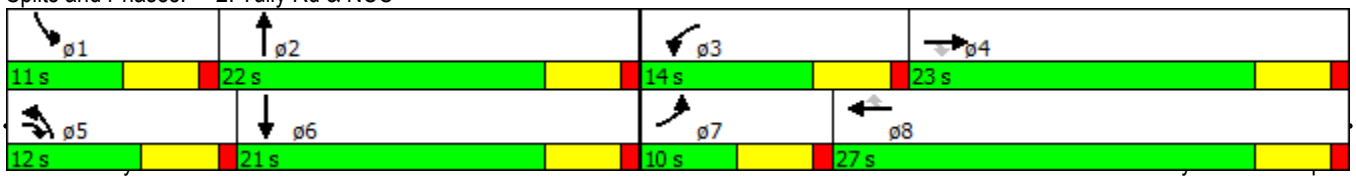
2: Tully Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	430	220	360	1030	20	90	70	120	30	100	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	10.0	23.0	12.0	14.0	27.0	27.0	12.0	22.0		11.0	21.0	
Total Split (%)	14.3%	32.9%	17.1%	20.0%	38.6%	38.6%	17.1%	31.4%		15.7%	30.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 52.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



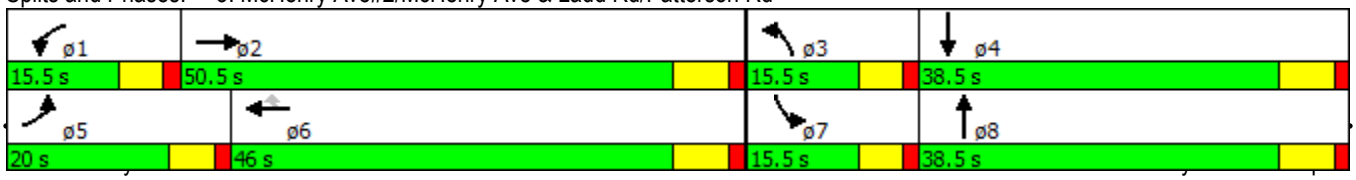
3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	150	40	10	420	130	20	300	10	70	440	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	38.5		15.5	38.5	38.5	15.5	38.5		15.5	38.5	
Total Split (s)	20.0	50.5		15.5	46.0	46.0	15.5	38.5		15.5	38.5	
Total Split (%)	16.7%	42.1%		12.9%	38.3%	38.3%	12.9%	32.1%		12.9%	32.1%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 95.5
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd



4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	230	10	320	90	0	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	26.0		34.0			34.0
Total Split (%)	43.3%		56.7%			56.7%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 41.8
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

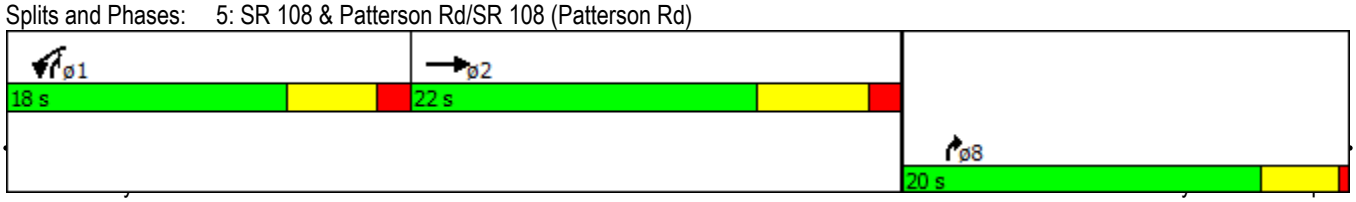
5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	220	10	230	560	0	90	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		60		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	22.0		18.0				20.0
Total Split (%)	36.7%		30.0%				33%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 45.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)



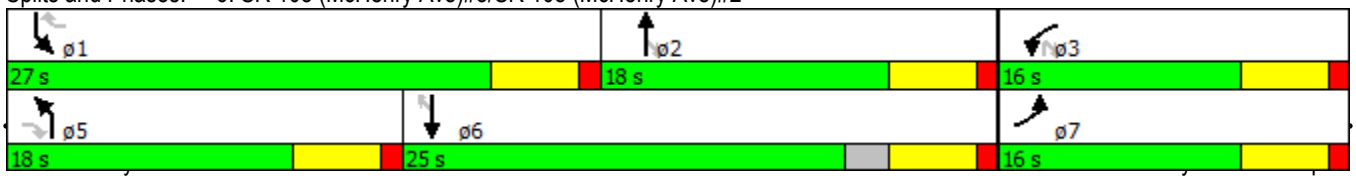
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	50	110	230	210	90	300	90	40	500	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		2		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			No			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	16.0	18.0	16.0	27.0	18.0	18.0		27.0	25.0	25.0
Total Split (%)	26.2%	29.5%	26.2%	44.3%	29.5%	29.5%		44.3%	41.0%	41.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 61
Actuated Cycle Length: 44.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2



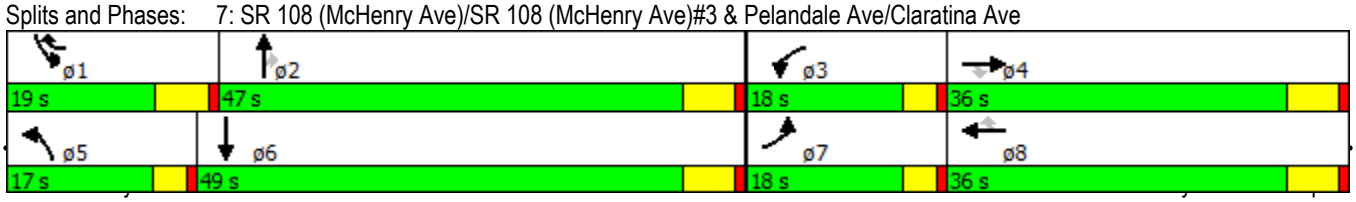
7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	600	180	210	960	280	190	670	120	100	560	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		350	300		350	225		200	500		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	60			60			60			120		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4998			3547			3932			1543	
Travel Time (s)		75.7			53.7			67.0			26.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.0	33.7	33.7	9.0	32.7	10.7	9.0	43.7	43.7	10.7	43.7	
Total Split (s)	18.0	36.0	36.0	18.0	36.0	19.0	17.0	47.0	47.0	19.0	49.0	
Total Split (%)	15.0%	30.0%	30.0%	15.0%	30.0%	15.8%	14.2%	39.2%	39.2%	15.8%	40.8%	
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 90.3
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave



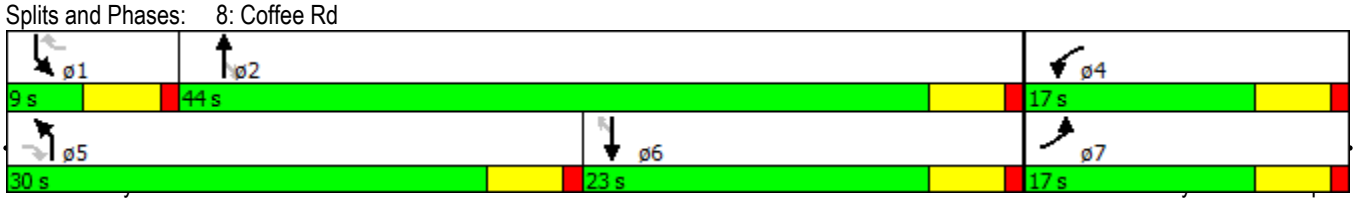
8: Coffee Rd

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	40	70	270	20	320	180	200	20	270	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		600			650		
Storage Lanes	1		1		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1052			1060	
Travel Time (s)						15.9			16.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		4		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	7	5	4	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	17.0	30.0	17.0	9.0	30.0	44.0	44.0	9.0	23.0	23.0
Total Split (%)	24.3%	42.9%	24.3%	12.9%	42.9%	62.9%	62.9%	12.9%	32.9%	32.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 52.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd



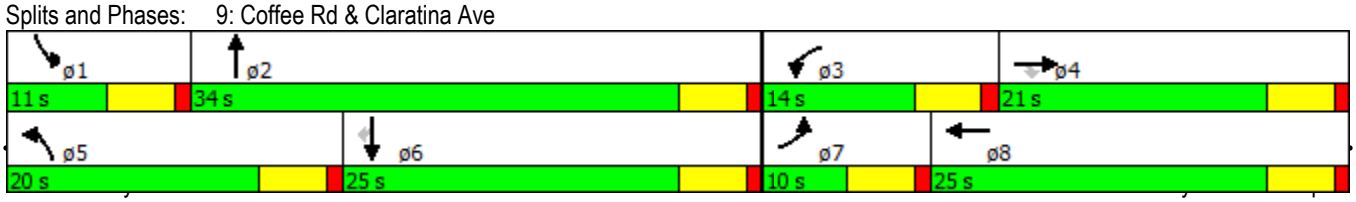
9: Coffee Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	370	220	80	850	60	380	370	60	30	400	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		0	300		0	300		300
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1474			3364			1337			1327	
Travel Time (s)		22.3			41.7			20.3			20.1	
Confl. Peds. (#/hr)						5						5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	21.0
Total Split (s)	10.0	21.0	21.0	14.0	25.0		20.0	34.0		11.0	25.0	25.0
Total Split (%)	12.5%	26.3%	26.3%	17.5%	31.3%		25.0%	42.5%		13.8%	31.3%	31.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 72.6
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Coffee Rd & Claratina Ave



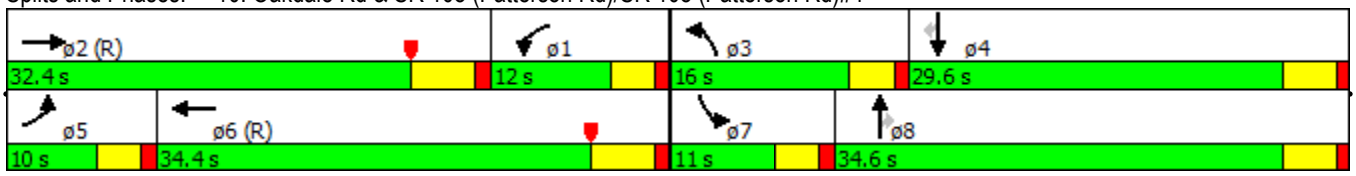
10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	290	50	180	590	40	120	50	90	50	90	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		0	200		0	150		75
Storage Lanes	1		0	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3274			2623			2223	
Travel Time (s)		42.0			63.8			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	10.0	32.4		12.0	34.4		16.0	34.6	34.6	11.0	29.6	29.6
Total Split (%)	11.1%	36.0%		13.3%	38.2%		17.8%	38.4%	38.4%	12.2%	32.9%	32.9%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	-0.6	-0.6	0.0	-0.6	-0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4



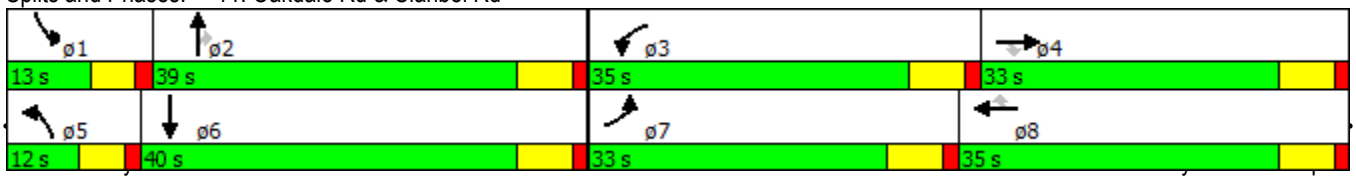
11: Oakdale Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	20	70	390	10	50	30	230	230	40	500	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	33.0	33.0	33.0	35.0	35.0	35.0	12.0	39.0	39.0	13.0	40.0	
Total Split (%)	27.5%	27.5%	27.5%	29.2%	29.2%	29.2%	10.0%	32.5%	32.5%	10.8%	33.3%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 62.9
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



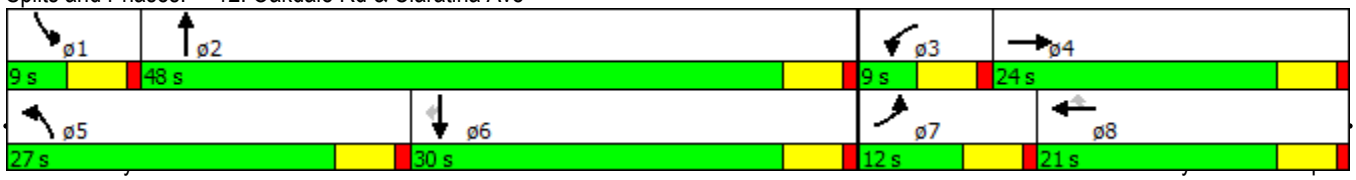
12: Oakdale Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	110	200	10	210	10	570	370	20	10	610	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	500		0	300		300
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1440			1326			2104			639	
Travel Time (s)		17.9			16.4			31.9			9.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0
Total Split (s)	12.0	24.0		9.0	21.0	21.0	27.0	48.0		9.0	30.0	30.0
Total Split (%)	13.3%	26.7%		10.0%	23.3%	23.3%	30.0%	53.3%		10.0%	33.3%	33.3%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 76.5
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Oakdale Rd & Claratina Ave



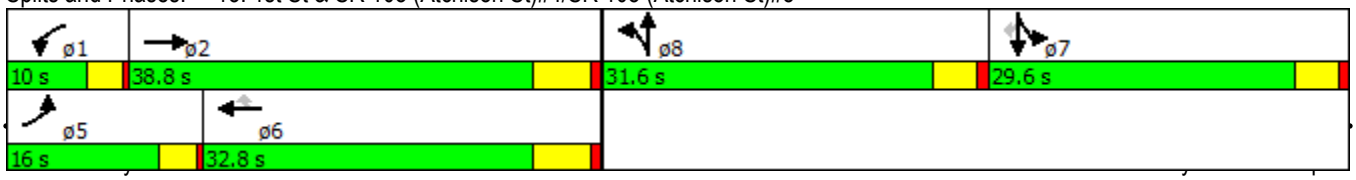
13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	220	20	20	320	180	50	190	40	160	130	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	75		150	250		0	175		100
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3283			3394			1265			1732	
Travel Time (s)		64.0			66.1			28.8			39.4	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Detector Phase	5	2		1	6	6	8	8		7	7	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	29.6
Total Split (s)	16.0	38.8		10.0	32.8	32.8	31.6	31.6		29.6	29.6	29.6
Total Split (%)	14.5%	35.3%		9.1%	29.8%	29.8%	28.7%	28.7%		26.9%	26.9%	26.9%
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	-0.6	-0.6		-0.6	-0.6	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 85.2
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5



14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	50	140	40	50	30	20	270	20	20	370	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	CBD
Control Type: Unsignalized	

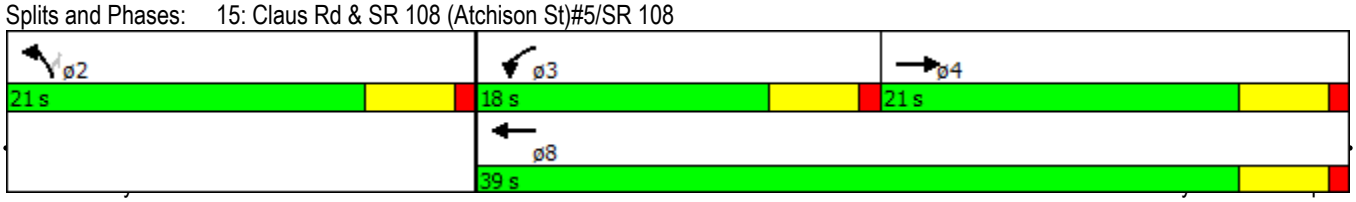
15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	230	140	200	450	80	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		300	400		0	150
Storage Lanes		1	1		1	1
Taper Length (ft)			60		60	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	883			934	1620	
Travel Time (s)	17.2			14.2	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	21.0		9.0	21.0	21.0	21.0
Total Split (s)	21.0		18.0	39.0	21.0	21.0
Total Split (%)	35.0%		30.0%	65.0%	35.0%	35.0%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 41.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108



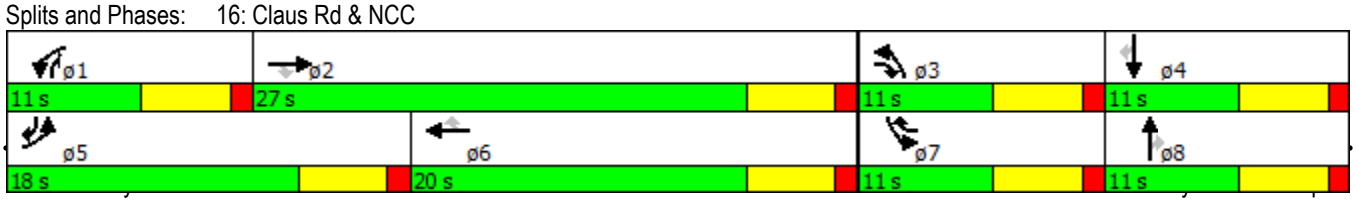
16: Claus Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	770	150	120	580	40	130	180	90	30	180	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		1000	520		720
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1709			1204			1344	
Travel Time (s)		14.4			21.2			14.9			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	18.0	27.0	11.0	11.0	20.0	11.0	11.0	11.0	11.0	11.0	11.0	18.0
Total Split (%)	30.0%	45.0%	18.3%	18.3%	33.3%	18.3%	18.3%	18.3%	18.3%	18.3%	18.3%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 51.5
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & NCC



17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	70	130	160	40	60	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	300
Storage Lanes	1			0	1	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		45	
Link Distance (ft)		2918	5382		860	
Travel Time (s)		36.2	66.7		13.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

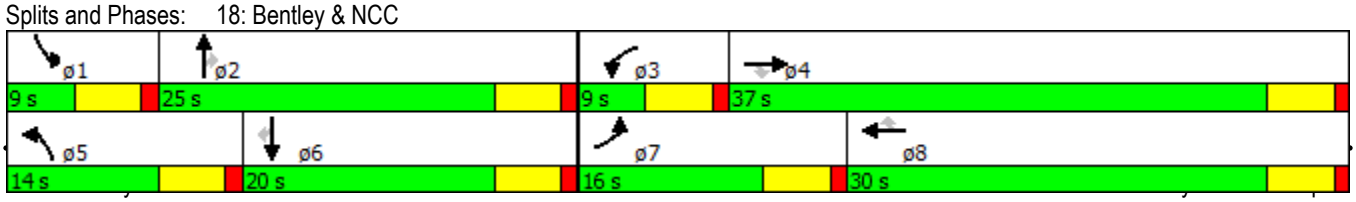
18: Bentley & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	730	60	20	650	10	70	40	20	10	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	680		580	770		720	200		300	150		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2817			2472			1526			1244	
Travel Time (s)		34.9			30.6			23.1			18.8	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	16.0	37.0	37.0	9.0	30.0	30.0	14.0	25.0	25.0	9.0	20.0	20.0
Total Split (%)	20.0%	46.3%	46.3%	11.3%	37.5%	37.5%	17.5%	31.3%	31.3%	11.3%	25.0%	25.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 58.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 18: Bentley & NCC



19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	280	50	40	130	70	90	60	20	110	60	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	250		300	250		0	100		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		1648			2595			1311			1681	
Travel Time (s)		28.1			59.0			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3		9.0	29.3		32.0	32.0		34.0	34.0	34.0
Total Split (s)	13.0	36.0		10.0	33.0		34.0	34.0		34.0	34.0	34.0
Total Split (%)	16.3%	45.0%		12.5%	41.3%		42.5%	42.5%		42.5%	42.5%	42.5%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 38
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

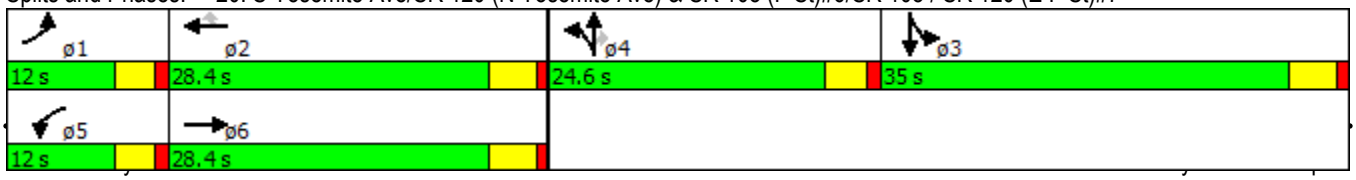
20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	240	80	70	160	290	100	320	70	290	430	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2713			2600			1983			5906	
Travel Time (s)		74.0			59.1			45.1			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	12.0	28.4		12.0	28.4	28.4	24.6	24.6	24.6	35.0	35.0	
Total Split (%)	12.0%	28.4%		12.0%	28.4%	28.4%	24.6%	24.6%	24.6%	35.0%	35.0%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-0.6		0.0	-0.6	-0.6		-0.2	-0.2		-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 78.9
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7



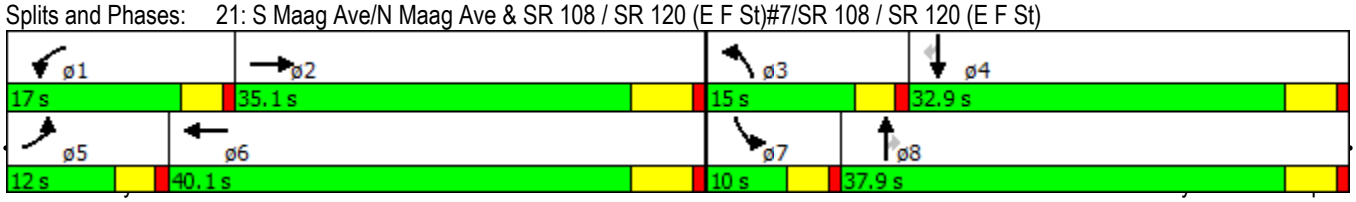
21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	210	150	150	230	40	260	110	80	30	150	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2050			2745			1922			2964	
Travel Time (s)		39.9			53.5			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	12.0	35.1		17.0	40.1		15.0	37.9	37.9	10.0	32.9	32.9
Total Split (%)	12.0%	35.1%		17.0%	40.1%		15.0%	37.9%	37.9%	10.0%	32.9%	32.9%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	-0.9	-0.9	0.0	-0.9	-0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 63.7
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)



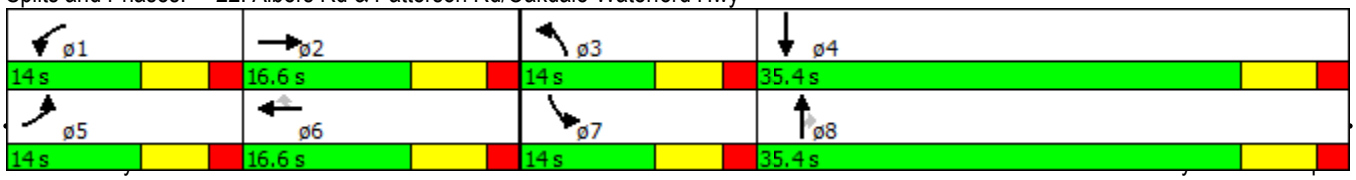
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	30	50	70	140	140	50	790	40	90	760	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		150
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2234			1524			2243	
Travel Time (s)		70.0			27.7			18.9			27.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	14.0	14.5		14.0	14.5	14.5	14.0	14.5	14.5	14.0	14.5	
Total Split (s)	14.0	16.6		14.0	16.6	16.6	14.0	35.4	35.4	14.0	35.4	
Total Split (%)	17.5%	20.8%		17.5%	20.8%	20.8%	17.5%	44.3%	44.3%	17.5%	44.3%	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5		-2.0	-2.5	-2.5	-2.0	-2.5	0.0	-2.0	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	6.5	4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 69.7
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



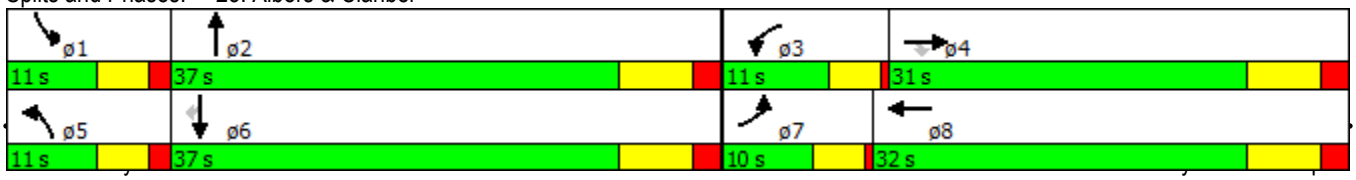
23: Albers & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	30	10	10	20	410	80	10	520	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	10.0	31.0	31.0	11.0	32.0		11.0	37.0		11.0	37.0	37.0
Total Split (%)	11.1%	34.4%	34.4%	12.2%	35.6%		12.2%	41.1%		12.2%	41.1%	41.1%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 41.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel



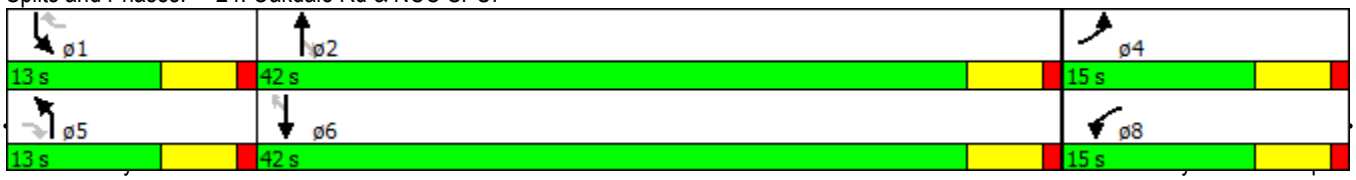
24: Oakdale Rd & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	50	30	130	30	30	410	370	30	590	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	15.0	13.0	15.0	13.0	13.0	42.0	42.0	13.0	42.0	42.0
Total Split (%)	21.4%	18.6%	21.4%	18.6%	18.6%	60.0%	60.0%	18.6%	60.0%	60.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 38
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 24: Oakdale Rd & NCC SPUI



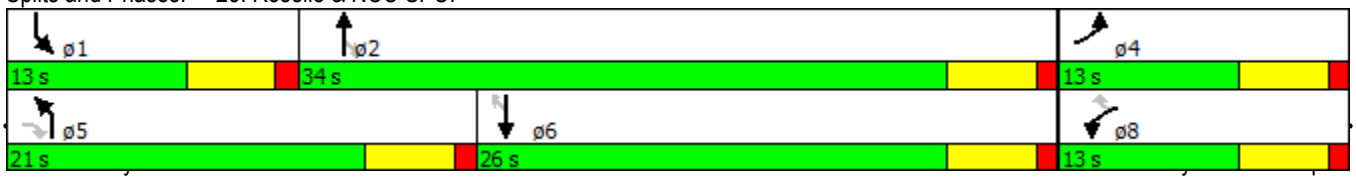
25: Roselle & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	10	90	130	40	150	260	190	40	460	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		400			550		
Storage Lanes	2		1		1			1		
Taper Length (ft)	60		60		60			60		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						782			1192	
Travel Time (s)						11.8			18.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		8			2			6
Detector Phase	4	5	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	13.0	21.0	13.0	13.0	21.0	34.0	34.0	13.0	26.0	26.0
Total Split (%)	21.7%	35.0%	21.7%	21.7%	35.0%	56.7%	56.7%	21.7%	43.3%	43.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 43.3
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Roselle & NCC SPUI



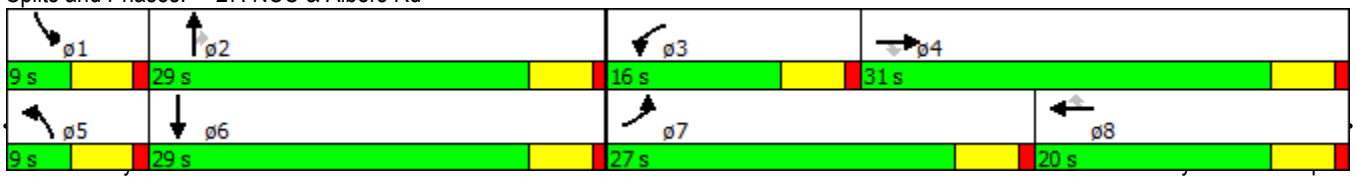
27: NCC & Albers Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	600	130	30	210	140	30	10	250	230	30	320	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	920		580	720		580	200		300	200		0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			55	
Link Distance (ft)		1228			3181			2830			1524	
Travel Time (s)		15.2			39.4			64.3			18.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			Free
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	
Total Split (s)	27.0	31.0	31.0	16.0	20.0	20.0	9.0	29.0	29.0	9.0	29.0	
Total Split (%)	31.8%	36.5%	36.5%	18.8%	23.5%	23.5%	10.6%	34.1%	34.1%	10.6%	34.1%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 62.8
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: NCC & Albers Rd



28: NCC & Sterns Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	210	10	10	230	10	10	10	10	10	10	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	820		820	720		720	300		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	120			120			120			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2931			4113			499			971	
Travel Time (s)		36.3			51.0			11.3			22.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

29: NCC & SR 120/108

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	260	30	200	460	10	10	10	210	20	20	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	700		550	820		390	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			55			30	
Link Distance (ft)		2277			1267			4113			356	
Travel Time (s)		28.2			15.7			51.0			8.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

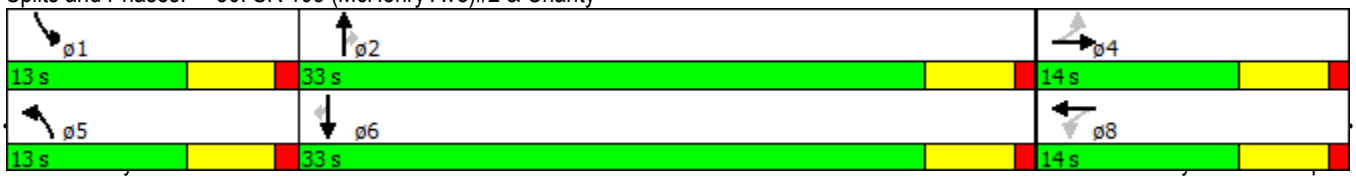
30: SR 108 (McHenry Ave)#2 & Charity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	10	10	10	10	540	10	10	720	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1281			1150			2456	
Travel Time (s)		21.7			29.1			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	14.0	14.0		14.0	14.0		13.0	33.0	33.0	13.0	33.0	33.0
Total Split (%)	23.3%	23.3%		23.3%	23.3%		21.7%	55.0%	55.0%	21.7%	55.0%	55.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 32.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity



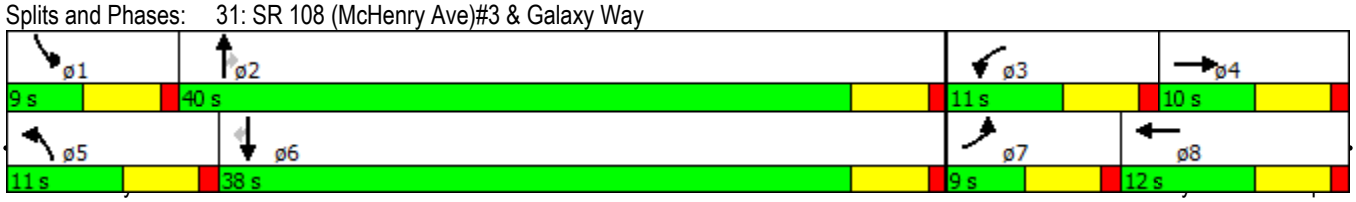
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	30	10	40	30	420	20	30	770	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	9.0	10.0		11.0	12.0		11.0	40.0	40.0	9.0	38.0	38.0
Total Split (%)	12.9%	14.3%		15.7%	17.1%		15.7%	57.1%	57.1%	12.9%	54.3%	54.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 41.9
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	20	10	10	10	220	10	10	530	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1310			2075			1060			1392	
Travel Time (s)		29.8			47.2			16.1			21.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	10	10	10	20	10	660	10	20	570	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		804			1164			1312			1052	
Travel Time (s)		18.3			26.5			19.9			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	30	20	10	20	10	760	10	10	730	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			411			1462	
Travel Time (s)		15.7			12.6			6.2			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

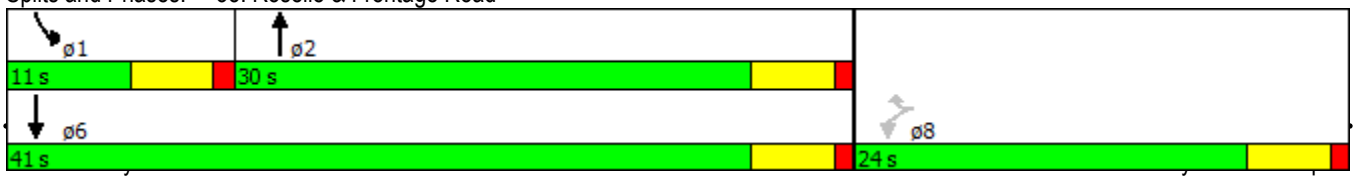
35: Roselle & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	20	100	500	20	20	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	24.0	24.0	30.0		11.0	41.0
Total Split (%)	36.9%	36.9%	46.2%		16.9%	63.1%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 36.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road



36: Davis & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	80	10	10	70	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

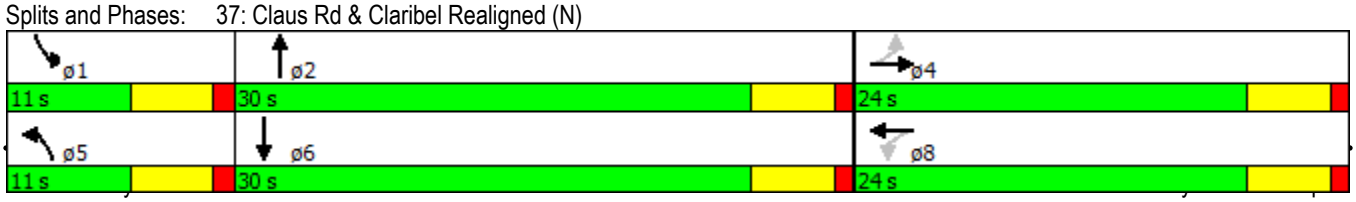
37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	10	30	80	10	10	10	300	100	20	400	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	24.0	24.0		24.0	24.0		11.0	30.0		11.0	30.0	
Total Split (%)	36.9%	36.9%		36.9%	36.9%		16.9%	46.2%		16.9%	46.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 32.6
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)



38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	40	360	40	40	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			904
Travel Time (s)	12.0		43.7			11.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

39: Sterns & Sterns Connection

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	20	170	10	20	140	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	60				60	
Link Speed (mph)	30		45			45
Link Distance (ft)	971		839			839
Travel Time (s)	22.1		12.7			12.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	0	0	420	160	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	0		1	0	
Taper Length (ft)	60				60	
Link Speed (mph)	30		55			55
Link Distance (ft)	1305		1260			2486
Travel Time (s)	29.7		15.6			30.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	420	0	0	0	0	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2486			1462	745	
Travel Time (s)	30.8			18.1	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1110	440	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2484	1481		1250	
Travel Time (s)		30.8	18.4		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	880	100	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2138			2475	1369	
Travel Time (s)	26.5			30.7	31.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	580	0	0	0	1410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	3
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2690	1260		432	
Travel Time (s)		33.3	15.6		5.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	840	0	0	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		868	2501		1267	
Travel Time (s)		10.8	31.0		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	880	0	0	0	0	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	55	
Link Distance (ft)	2475			727	1175	
Travel Time (s)	30.7			16.5	14.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

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Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	840	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1306			2501	1150	
Travel Time (s)	29.7			31.0	14.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	1110	0	0	0	0	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2484		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	440	0	0	0	0	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	45	
Link Distance (ft)	2052			704	1091	
Travel Time (s)	25.4			16.0	16.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

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Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	880	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	880	0	0	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2318	2226		1058	
Travel Time (s)		28.7	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

122: NCC

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	1010	0	1110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						1610
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

125: NCC SPUI & NCC

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	580	80	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2190			2293	1098	
Travel Time (s)	27.1			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	580	0	0	0	0	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	440	110	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	30	
Link Distance (ft)	1627			2052	1054	
Travel Time (s)	20.2			46.6	24.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)		10%				
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	960	290	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		2152	1340		1081	
Travel Time (s)		48.9	16.6		24.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	960	0	0	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		1496	2152		403	
Travel Time (s)		34.0	26.7		9.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

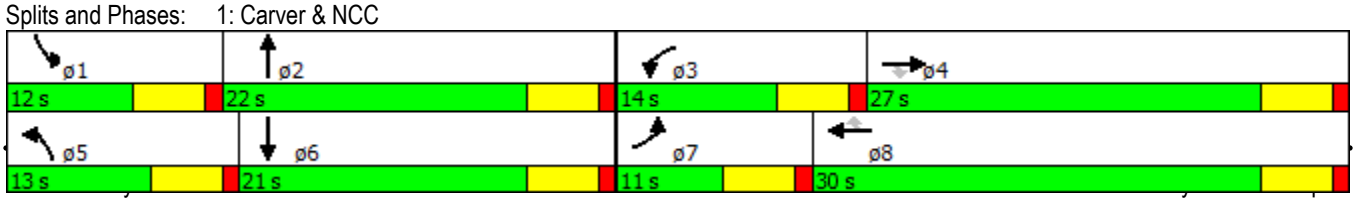
1: Carver & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	970	150	90	960	40	80	90	100	60	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	11.0	27.0	27.0	14.0	30.0	30.0	13.0	22.0		12.0	21.0	
Total Split (%)	14.7%	36.0%	36.0%	18.7%	40.0%	40.0%	17.3%	29.3%		16.0%	28.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 63.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC



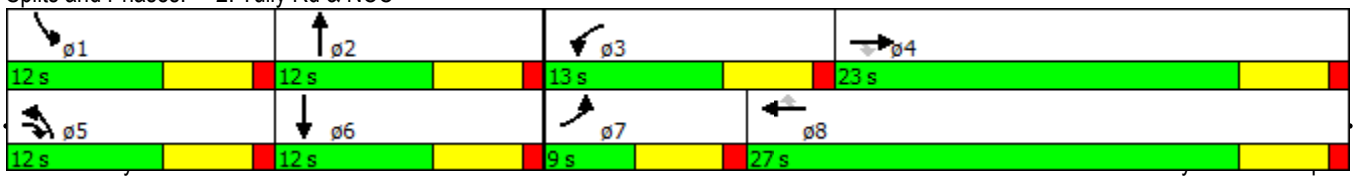
2: Tully Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	940	170	310	820	40	250	160	480	70	140	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Total Split (s)	9.0	23.0	12.0	13.0	27.0	27.0	12.0	12.0		12.0	12.0	
Total Split (%)	15.0%	38.3%	20.0%	21.7%	45.0%	45.0%	20.0%	20.0%		20.0%	20.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 55.3
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



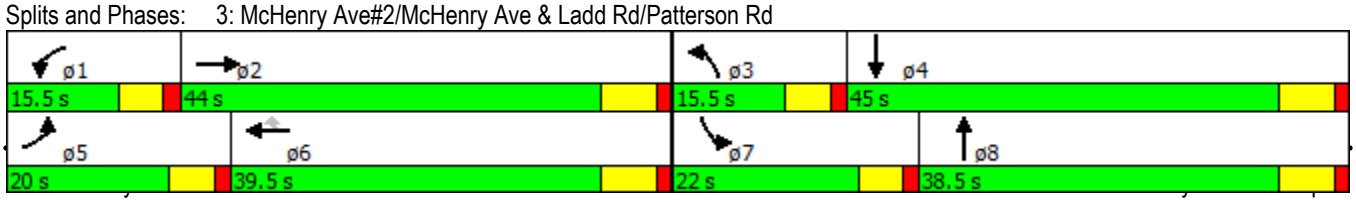
3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	310	20	10	310	90	60	430	10	220	480	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	38.5		15.5	38.5	38.5	15.5	38.5		15.5	38.5	
Total Split (s)	20.0	44.0		15.5	39.5	39.5	15.5	38.5		22.0	45.0	
Total Split (%)	16.7%	36.7%		12.9%	32.9%	32.9%	12.9%	32.1%		18.3%	37.5%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 100.2
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd



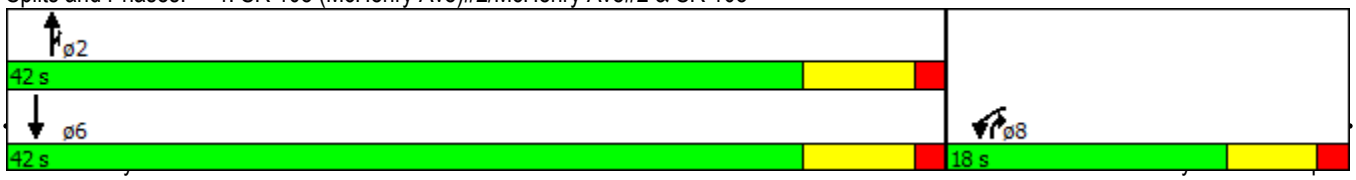
4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	100	10	490	260	0	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	18.0		42.0			42.0
Total Split (%)	30.0%		70.0%			70.0%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 47.3
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108



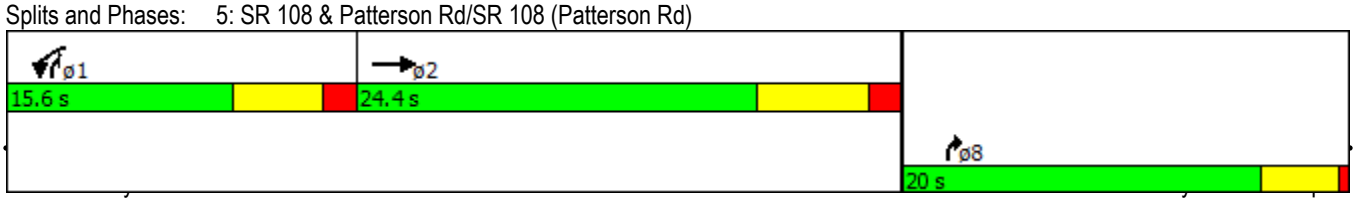
5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	530	10	100	410	0	260	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		60		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	8%	8%	8%	8%	9%	9%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	24.4		15.6				20.0
Total Split (%)	40.7%		26.0%				33%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 53.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)



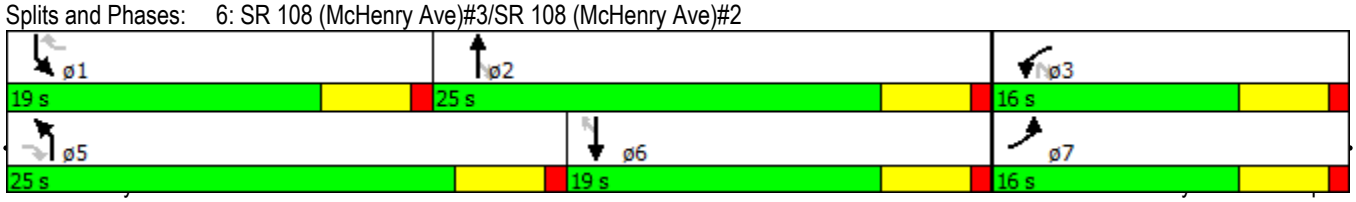
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	230	200	200	140	130	580	430	100	450	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		1		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			No			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	16.0	25.0	16.0	19.0	25.0	25.0		19.0	19.0	19.0
Total Split (%)	26.7%	41.7%	26.7%	31.7%	41.7%	41.7%		31.7%	31.7%	31.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 48.6
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2



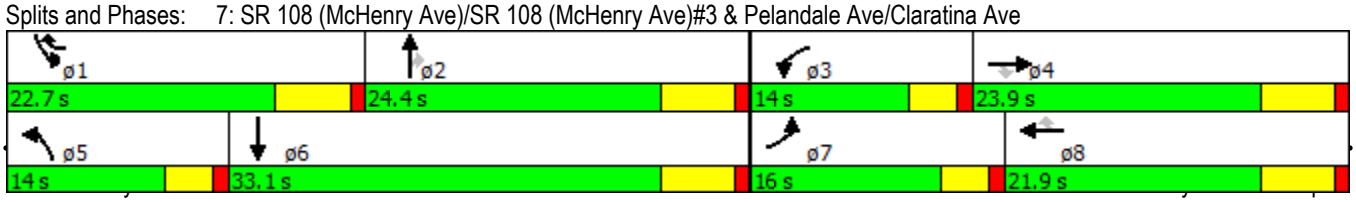
7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	980	370	270	600	160	290	910	290	490	910	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		350	300		350	225		200	500		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	60			60			60			120		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4998			3549			3932			1543	
Travel Time (s)		75.7			53.8			67.0			26.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.0	15.7	15.7	9.0	15.7	10.7	9.0	15.7	15.7	10.7	15.7	
Total Split (s)	16.0	23.9	23.9	14.0	21.9	22.7	14.0	24.4	24.4	22.7	33.1	
Total Split (%)	18.8%	28.1%	28.1%	16.5%	25.8%	26.7%	16.5%	28.7%	28.7%	26.7%	38.9%	
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 84
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave



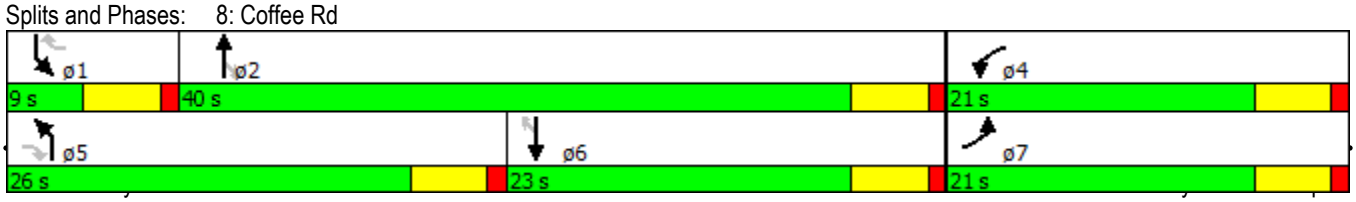
8: Coffee Rd

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	360	130	220	10	240	200	290	20	220	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		600			650		
Storage Lanes	1		1		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1042			1060	
Travel Time (s)						15.8			16.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		4		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	7	5	4	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	21.0	26.0	21.0	9.0	26.0	40.0	40.0	9.0	23.0	23.0
Total Split (%)	30.0%	37.1%	30.0%	12.9%	37.1%	57.1%	57.1%	12.9%	32.9%	32.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 49.3
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd



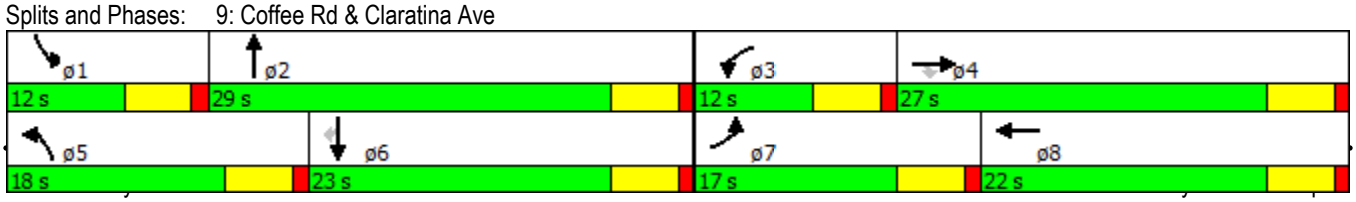
9: Coffee Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	940	400	60	530	80	320	400	80	60	240	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		0	300		0	300		300
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1474			3364			1337			1327	
Travel Time (s)		22.3			41.7			20.3			20.1	
Confl. Peds. (#/hr)						5						5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	44%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	21.0
Total Split (s)	17.0	27.0	27.0	12.0	22.0		18.0	29.0		12.0	23.0	23.0
Total Split (%)	21.3%	33.8%	33.8%	15.0%	27.5%		22.5%	36.3%		15.0%	28.8%	28.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 67.4
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Coffee Rd & Claratina Ave



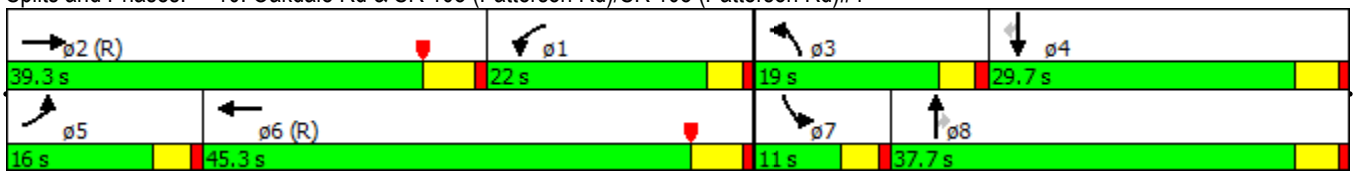
10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	620	130	370	380	30	140	80	280	50	60	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		0	200		0	150		75
Storage Lanes	1		0	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3274			2623			2223	
Travel Time (s)		42.0			63.8			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	16.0	39.3		22.0	45.3		19.0	37.7	37.7	11.0	29.7	29.7
Total Split (%)	14.5%	35.7%		20.0%	41.2%		17.3%	34.3%	34.3%	10.0%	27.0%	27.0%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	-0.6	-0.6	0.0	-0.6	-0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4



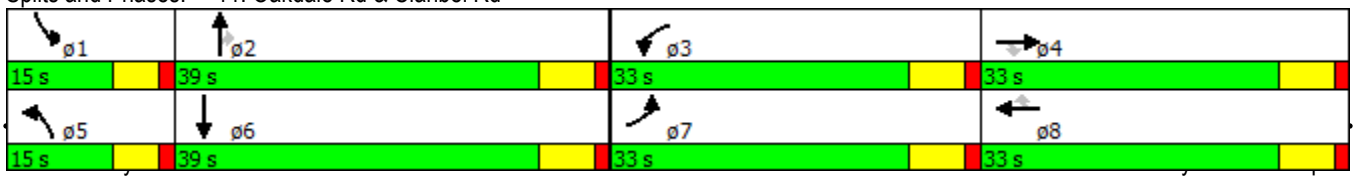
11: Oakdale Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	20	100	360	10	40	60	490	360	60	500	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	15.0	39.0	39.0	15.0	39.0	
Total Split (%)	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	12.5%	32.5%	32.5%	12.5%	32.5%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 68.6
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



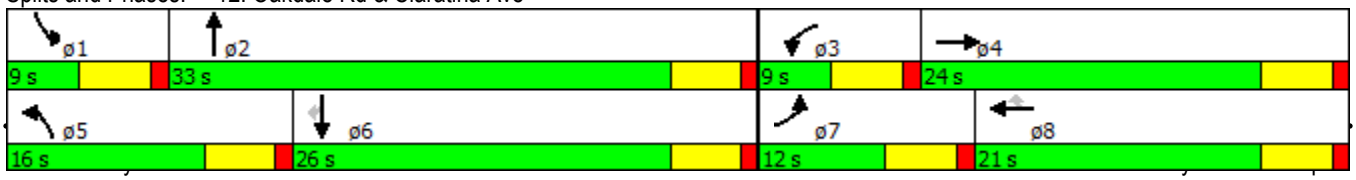
12: Oakdale Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	290	650	20	200	20	340	680	40	20	600	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	500		0	300		300
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1440			1326			2104			655	
Travel Time (s)		17.9			16.4			31.9			9.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	6%	6%	6%	6%	6%	66%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0
Total Split (s)	12.0	24.0		9.0	21.0	21.0	16.0	33.0		9.0	26.0	26.0
Total Split (%)	16.0%	32.0%		12.0%	28.0%	28.0%	21.3%	44.0%		12.0%	34.7%	34.7%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 63.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Oakdale Rd & Claratina Ave



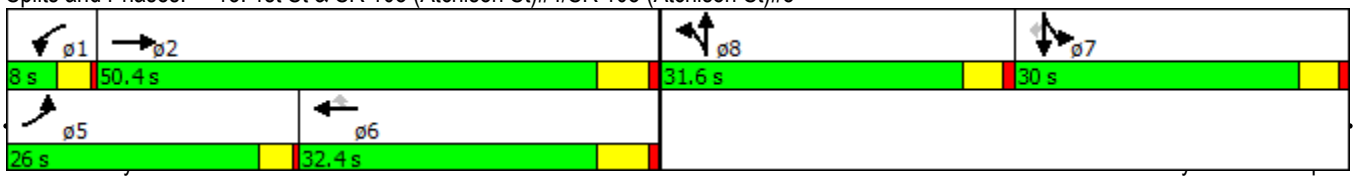
13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	460	30	30	280	120	60	220	30	220	180	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	75		150	250		0	175		100
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3283			3394			1265			1732	
Travel Time (s)		64.0			66.1			28.8			39.4	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	16%	16%	16%	16%	16%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Detector Phase	5	2		1	6	6	8	8		7	7	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	29.6
Total Split (s)	26.0	50.4		8.0	32.4	32.4	31.6	31.6		30.0	30.0	30.0
Total Split (%)	21.7%	42.0%		6.7%	27.0%	27.0%	26.3%	26.3%		25.0%	25.0%	25.0%
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	-0.6	-0.6		-0.6	-0.6	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 101
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5



14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	50	100	50	60	20	130	370	20	30	310	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	CBD
Control Type: Unsignalized	

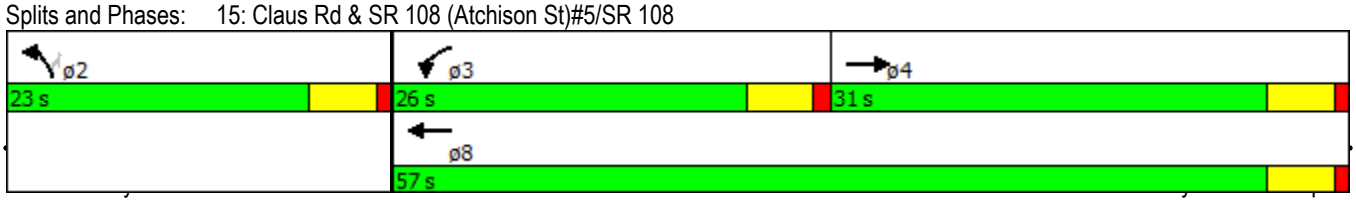
15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	560	210	240	350	50	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		300	400		0	150
Storage Lanes		1	1		1	1
Taper Length (ft)			60		60	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	883			934	1620	
Travel Time (s)	17.2			14.2	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	21.0		9.0	21.0	21.0	21.0
Total Split (s)	31.0		26.0	57.0	23.0	23.0
Total Split (%)	38.8%		32.5%	71.3%	28.8%	28.8%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 56.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108



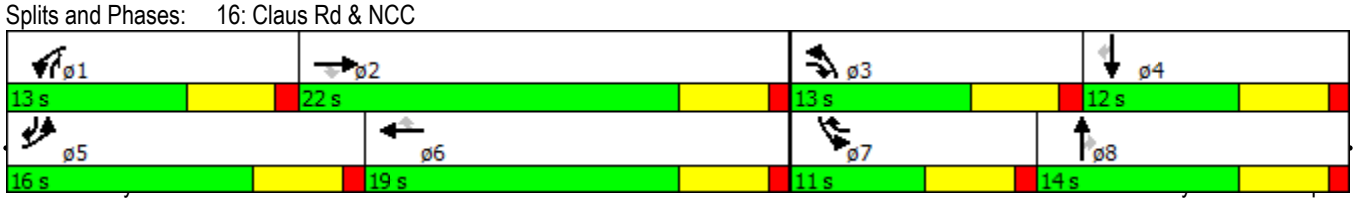
16: Claus Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	660	200	240	540	50	230	130	200	40	190	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		1000	520		720
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1709			1204			1344	
Travel Time (s)		14.4			21.2			14.9			20.4	
Confl. Peds. (#/hr)									2			2
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	16.0	22.0	13.0	13.0	19.0	11.0	13.0	14.0	13.0	11.0	12.0	16.0
Total Split (%)	26.7%	36.7%	21.7%	21.7%	31.7%	18.3%	21.7%	23.3%	21.7%	18.3%	20.0%	26.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 56.1
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & NCC



17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	190	170	160	50	60	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	300
Storage Lanes	1			0	1	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		45	
Link Distance (ft)		2918	5382		860	
Travel Time (s)		36.2	66.7		13.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

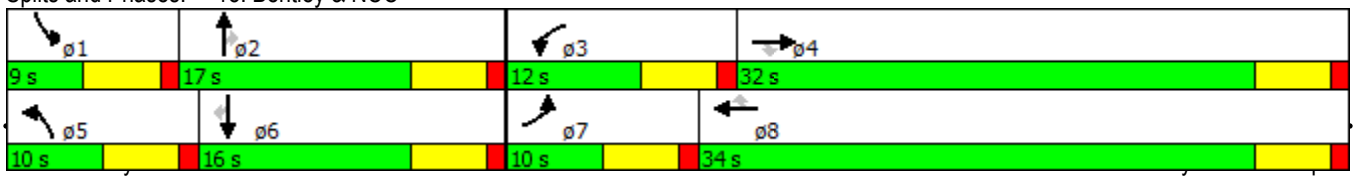
18: Bentley & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	760	110	70	680	10	30	80	20	10	70	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	680		580	770		720	200		300	150		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2841			2448			1526			1244	
Travel Time (s)		35.2			30.3			23.1			18.8	
Confl. Peds. (#/hr)									2			2
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	10.0	32.0	32.0	12.0	34.0	34.0	10.0	17.0	17.0	9.0	16.0	16.0
Total Split (%)	14.3%	45.7%	45.7%	17.1%	48.6%	48.6%	14.3%	24.3%	24.3%	12.9%	22.9%	22.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 48.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 18: Bentley & NCC



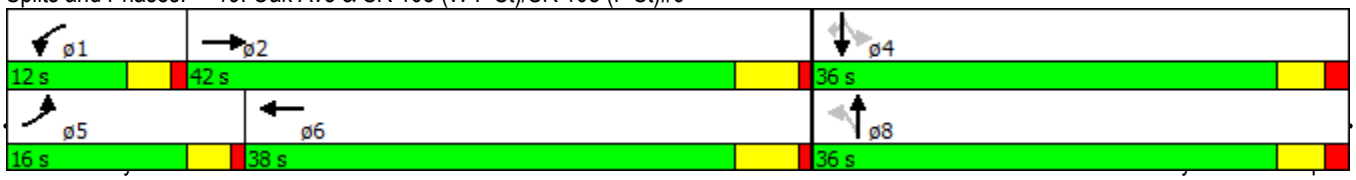
19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	460	40	30	430	70	90	50	60	90	40	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	250		300	250		0	100		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		1648			2595			1311			1681	
Travel Time (s)		28.1			59.0			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	13%	2%	2%	13%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3		9.0	29.3		32.0	32.0		34.0	34.0	34.0
Total Split (s)	16.0	42.0		12.0	38.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	17.8%	46.7%		13.3%	42.2%		40.0%	40.0%		40.0%	40.0%	40.0%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 42
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6



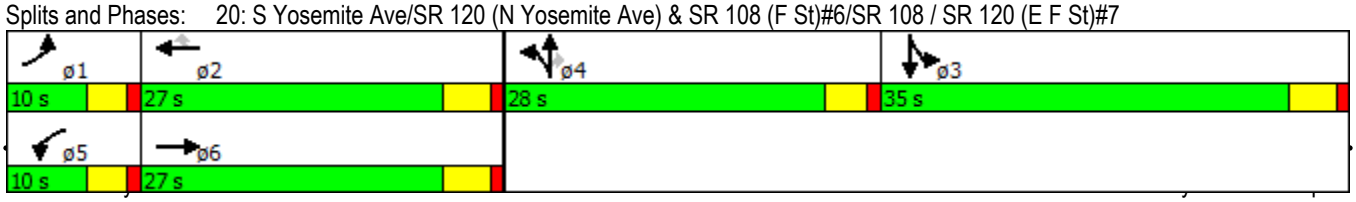
20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	300	70	20	240	360	120	460	50	300	410	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2713			2600			1983			5906	
Travel Time (s)		74.0			59.1			45.1			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	15%	15%	15%	15%	15%	15%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	10.0	27.0		10.0	27.0	27.0	28.0	28.0	28.0	35.0	35.0	
Total Split (%)	10.0%	27.0%		10.0%	27.0%	27.0%	28.0%	28.0%	28.0%	35.0%	35.0%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-0.6		0.0	-0.6	-0.6		-0.2	-0.2		-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 88.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7



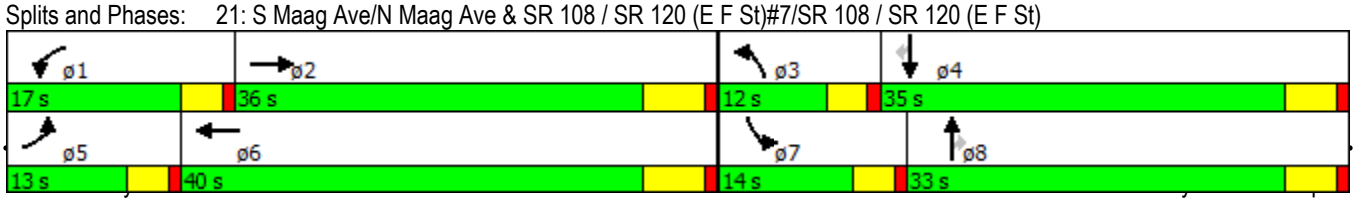
21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	270	180	110	350	80	140	170	190	80	120	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2050			2745			1922			2964	
Travel Time (s)		39.9			53.5			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	13%	2%	2%	13%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	13.0	36.0		17.0	40.0		12.0	33.0	33.0	14.0	35.0	35.0
Total Split (%)	13.0%	36.0%		17.0%	40.0%		12.0%	33.0%	33.0%	14.0%	35.0%	35.0%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	-0.9	-0.9	0.0	-0.9	-0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 57.4
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)



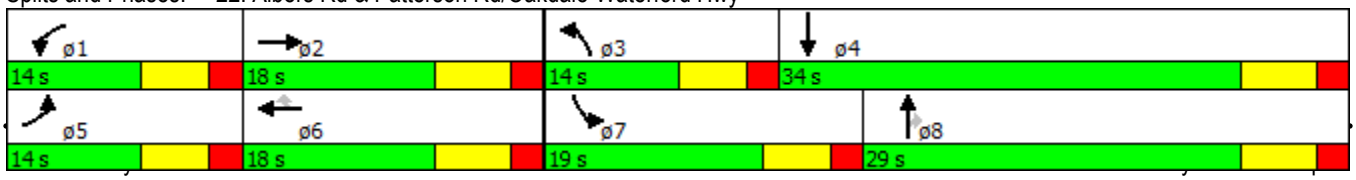
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	170	50	50	60	120	50	730	70	180	750	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		150
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2234			1524			2243	
Travel Time (s)		70.0			27.7			18.9			27.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	14.0	14.5		14.0	14.5	14.5	14.0	14.5	14.5	14.0	14.5	
Total Split (s)	14.0	18.0		14.0	18.0	18.0	14.0	29.0	29.0	19.0	34.0	
Total Split (%)	17.5%	22.5%		17.5%	22.5%	22.5%	17.5%	36.3%	36.3%	23.8%	42.5%	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5		-2.0	-2.5	-2.5	-2.0	-2.5	0.0	-2.0	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	6.5	4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 71.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



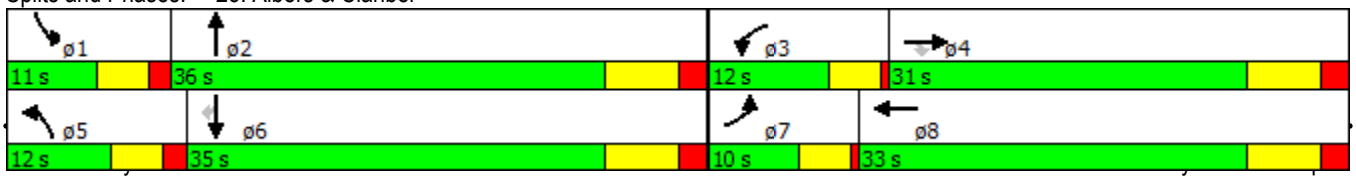
23: Albers & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	40	20	10	20	530	40	20	380	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	10.0	31.0	31.0	12.0	33.0		12.0	36.0		11.0	35.0	35.0
Total Split (%)	11.1%	34.4%	34.4%	13.3%	36.7%		13.3%	40.0%		12.2%	38.9%	38.9%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 43.9
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel



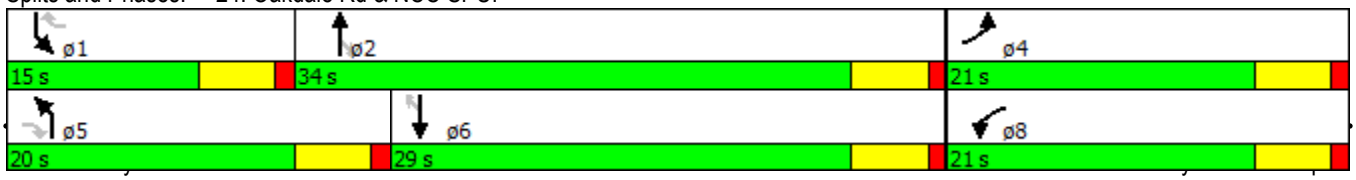
24: Oakdale Rd & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	320	120	180	70	10	520	180	50	620	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	21.0	20.0	21.0	15.0	20.0	34.0	34.0	15.0	29.0	29.0
Total Split (%)	30.0%	28.6%	30.0%	21.4%	28.6%	48.6%	48.6%	21.4%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 49.4
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 24: Oakdale Rd & NCC SPUI



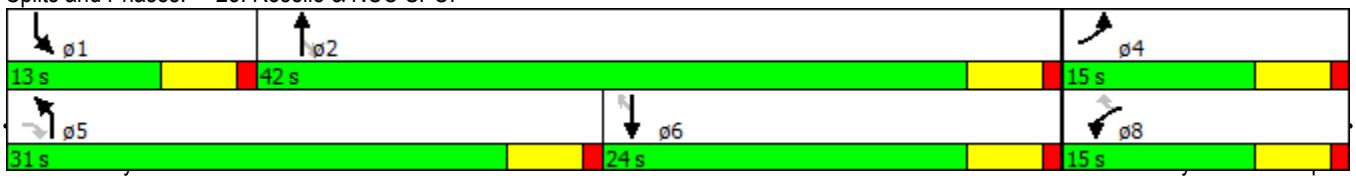
25: Roselle & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	50	250	90	70	120	400	210	50	380	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		400			550		
Storage Lanes	2		1		1			1		
Taper Length (ft)	60		60		60			60		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						782			1192	
Travel Time (s)						11.8			18.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		8			2			6
Detector Phase	4	5	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	15.0	31.0	15.0	15.0	31.0	42.0	42.0	13.0	24.0	24.0
Total Split (%)	21.4%	44.3%	21.4%	21.4%	44.3%	60.0%	60.0%	18.6%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 48.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Roselle & NCC SPUI



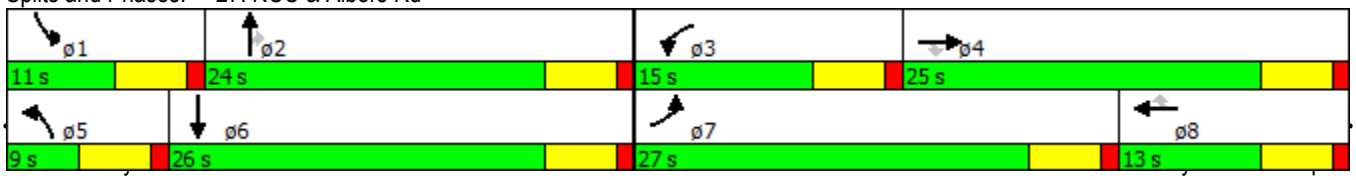
27: NCC & Albers Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	590	190	10	220	160	60	10	200	300	30	230	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	920		580	720		580	200		300	200		0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			55	
Link Distance (ft)		1228			3030			2830			1524	
Travel Time (s)		15.2			37.6			64.3			18.9	
Confl. Peds. (#/hr)									2			2
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			Free
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	
Total Split (s)	27.0	25.0	25.0	15.0	13.0	13.0	9.0	24.0	24.0	11.0	26.0	
Total Split (%)	36.0%	33.3%	33.3%	20.0%	17.3%	17.3%	12.0%	32.0%	32.0%	14.7%	34.7%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 56.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: NCC & Albers Rd



28: NCC & Sterns Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	260	10	10	180	10	10	10	10	20	10	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	820		820	720		720	300		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	120			120			120			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2908			4138			525			978	
Travel Time (s)		36.0			51.3			11.9			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

29: NCC & SR 120/108

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	410	10	170	410	10	30	30	230	20	20	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	700		550	820		390	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			55			30	
Link Distance (ft)		2286			1267			4138			356	
Travel Time (s)		28.3			15.7			51.3			8.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

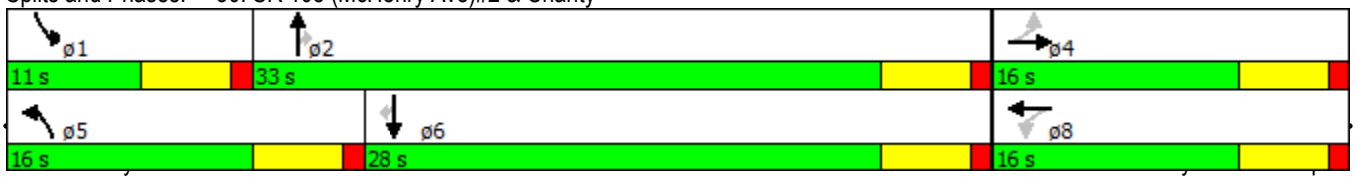
30: SR 108 (McHenry Ave)#2 & Charity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	10	100	20	20	20	80	850	20	20	570	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1296			1150			2456	
Travel Time (s)		21.7			29.5			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	16.0	16.0		16.0	16.0		16.0	33.0	33.0	11.0	28.0	28.0
Total Split (%)	26.7%	26.7%		26.7%	26.7%		26.7%	55.0%	55.0%	18.3%	46.7%	46.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 39.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity



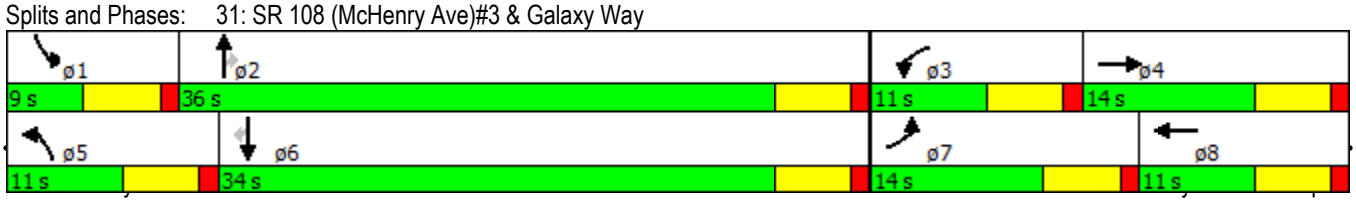
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	10	70	40	10	60	40	1000	40	60	730	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	14.0	14.0		11.0	11.0		11.0	36.0	36.0	9.0	34.0	34.0
Total Split (%)	20.0%	20.0%		15.7%	15.7%		15.7%	51.4%	51.4%	12.9%	48.6%	48.6%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 53.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	20	10	10	10	540	20	10	350	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1332			2058			1060			1370	
Travel Time (s)		30.3			46.8			16.1			20.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	10	10	10	20	10	690	10	20	530	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		799			1147			1312			1042	
Travel Time (s)		18.2			26.1			19.9			15.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	10	10	10	20	680	20	40	840	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			454			1462	
Travel Time (s)		15.7			12.6			6.9			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

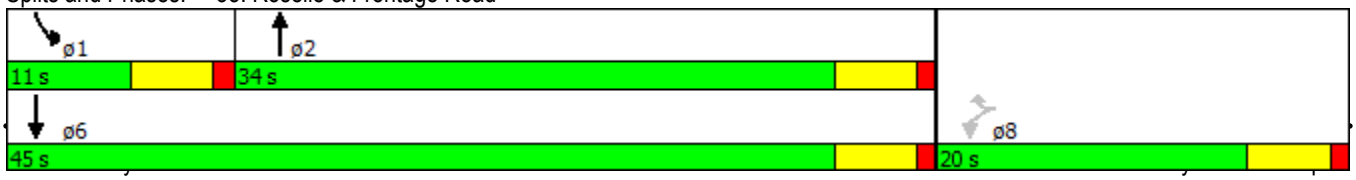
35: Roselle & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	40	690	40	40	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	20.0	20.0	34.0		11.0	45.0
Total Split (%)	30.8%	30.8%	52.3%		16.9%	69.2%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 40.2
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road



36: Davis & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	110	10	10	100	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

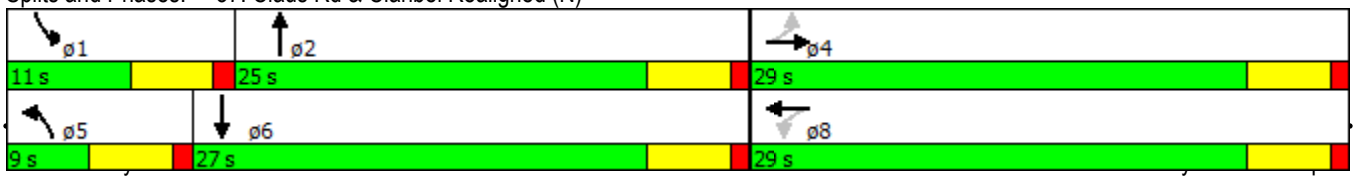
37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	20	210	10	30	20	430	30	40	280	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	29.0	29.0		29.0	29.0		9.0	25.0		11.0	27.0	
Total Split (%)	44.6%	44.6%		44.6%	44.6%		13.8%	38.5%		16.9%	41.5%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 44.3
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)



38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	40	520	40	40	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			904
Travel Time (s)	12.0		43.7			11.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

39: Sterns & Sterns Connection

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	230	20	30	250	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	60				60	
Link Speed (mph)	30		45			45
Link Distance (ft)	978		839			839
Travel Time (s)	22.2		12.7			12.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	0	0	1060	430	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	0		1	0	
Taper Length (ft)	60				60	
Link Speed (mph)	30		55			55
Link Distance (ft)	1305		1260			2486
Travel Time (s)	29.7		15.6			30.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1060	0	0	0	0	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2486			1462	745	
Travel Time (s)	30.8			18.1	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	900	340	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2484	1481		1250	
Travel Time (s)		30.8	18.4		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	900	300	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2138			2475	1369	
Travel Time (s)	26.5			30.7	31.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	1490	0	0	0	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	3
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2690	1260		432	
Travel Time (s)		33.3	15.6		5.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	890	0	0	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		868	2501		1267	
Travel Time (s)		10.8	31.0		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	900	0	0	0	0	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	55	
Link Distance (ft)	2475			727	1175	
Travel Time (s)	30.7			16.5	14.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

84: NCC SPUI

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	890	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1306			2501	1150	
Travel Time (s)	29.7			31.0	14.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	900	0	0	0	0	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2484		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

117: NCC SPUI

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	790	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	790	0	0	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2310	2226		1058	
Travel Time (s)		28.6	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	1050	0	1160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

125: NCC SPUI & NCC

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	970	440	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2305			2293	1098	
Travel Time (s)	28.6			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	970	0	0	0	0	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1100	0	0	0	0	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	45	
Link Distance (ft)	2052			613	1091	
Travel Time (s)	25.4			13.9	16.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1100	490	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	30	
Link Distance (ft)	1627			2052	1054	
Travel Time (s)	20.2			46.6	24.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)		27%				
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	860	230	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		2152	1345		1081	
Travel Time (s)		48.9	16.7		24.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	860	0	0	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		1496	2152		442	
Travel Time (s)		34.0	26.7		10.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

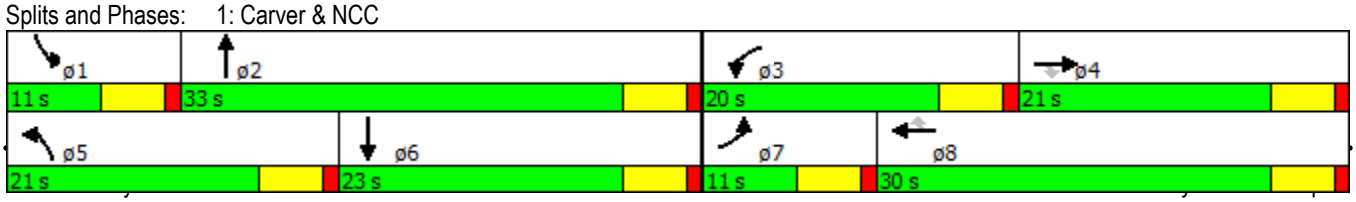
1: Carver & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	640	110	170	950	50	180	60	20	20	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	11.0	21.0	21.0	20.0	30.0	30.0	21.0	33.0		11.0	23.0	
Total Split (%)	12.9%	24.7%	24.7%	23.5%	35.3%	35.3%	24.7%	38.8%		12.9%	27.1%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 68.7
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC



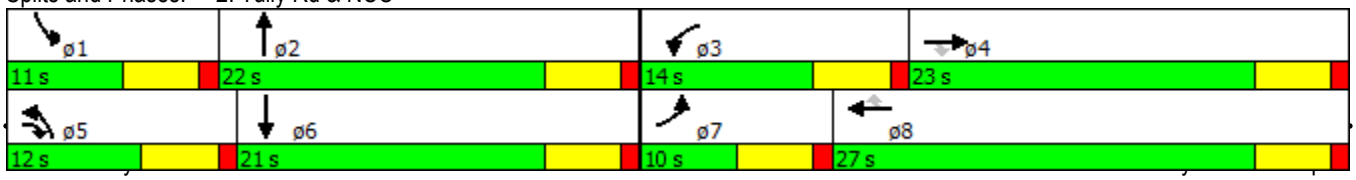
2: Tully Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	430	220	360	1030	20	90	70	120	30	100	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	10.0	23.0	12.0	14.0	27.0	27.0	12.0	22.0		11.0	21.0	
Total Split (%)	14.3%	32.9%	17.1%	20.0%	38.6%	38.6%	17.1%	31.4%		15.7%	30.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 52.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



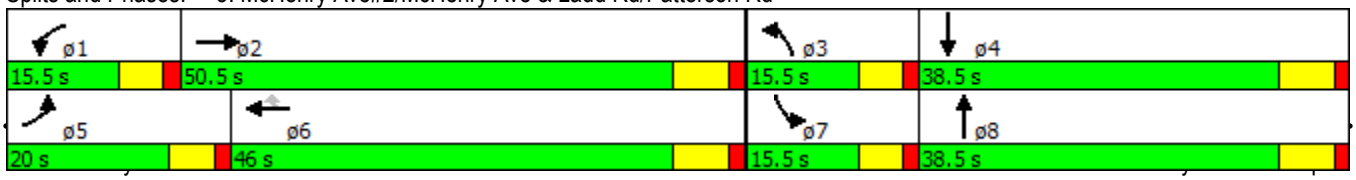
3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	150	40	10	420	130	20	300	10	70	440	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	38.5		15.5	38.5	38.5	15.5	38.5		15.5	38.5	
Total Split (s)	20.0	50.5		15.5	46.0	46.0	15.5	38.5		15.5	38.5	
Total Split (%)	16.7%	42.1%		12.9%	38.3%	38.3%	12.9%	32.1%		12.9%	32.1%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 94.6
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd



4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	230	10	320	90	0	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	26.0		34.0			34.0
Total Split (%)	43.3%		56.7%			56.7%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 41.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

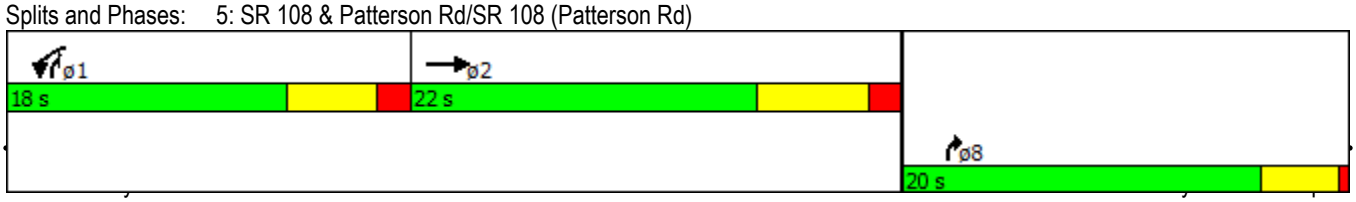
5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	220	10	230	560	0	90	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		60		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	9%	9%	9%	9%	13%	13%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	22.0		18.0				20.0
Total Split (%)	36.7%		30.0%				33%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 45.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)



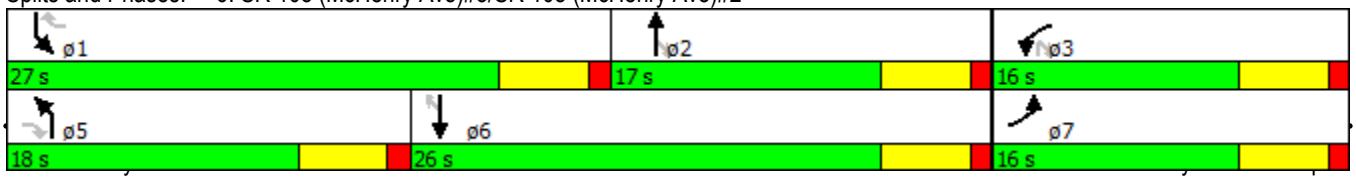
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	50	110	230	210	90	300	90	40	500	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		1		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			No			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	16.0	18.0	16.0	27.0	18.0	17.0		27.0	26.0	26.0
Total Split (%)	26.7%	30.0%	26.7%	45.0%	30.0%	28.3%		45.0%	43.3%	43.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 44.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2



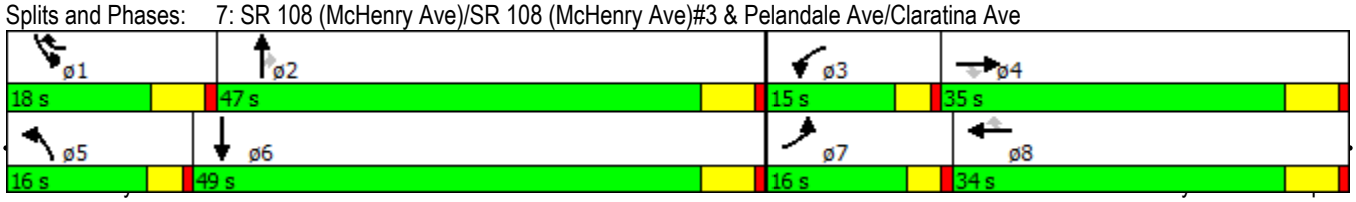
7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	600	180	210	960	280	190	670	120	100	560	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		350	300		350	225		200	500		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	60			60			60			120		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4998			3518			3932			1543	
Travel Time (s)		75.7			53.3			67.0			26.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.0	33.7	33.7	9.0	32.7	10.7	9.0	43.7	43.7	10.7	43.7	
Total Split (s)	16.0	35.0	35.0	15.0	34.0	18.0	16.0	47.0	47.0	18.0	49.0	
Total Split (%)	13.9%	30.4%	30.4%	13.0%	29.6%	15.7%	13.9%	40.9%	40.9%	15.7%	42.6%	
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 85.2
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave



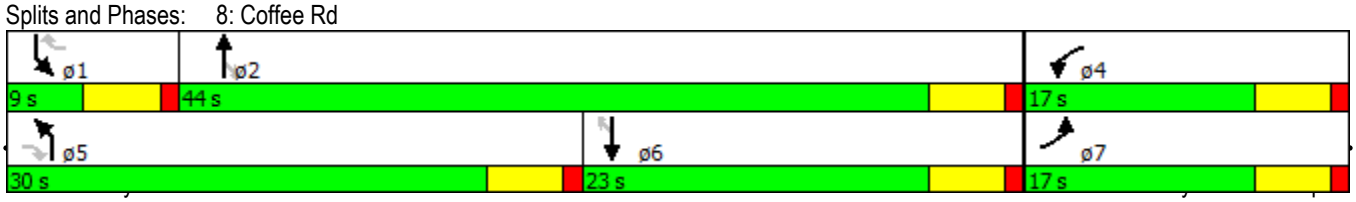
8: Coffee Rd

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	40	70	270	20	320	190	190	20	270	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		600			650		
Storage Lanes	1		1		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1052			1060	
Travel Time (s)						15.9			16.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		4		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	7	5	4	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	17.0	30.0	17.0	9.0	30.0	44.0	44.0	9.0	23.0	23.0
Total Split (%)	24.3%	42.9%	24.3%	12.9%	42.9%	62.9%	62.9%	12.9%	32.9%	32.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 52.9
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd



9: Coffee Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	370	220	80	850	60	380	370	60	30	400	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		0	300		0	300		300
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1474			3364			1337			1327	
Travel Time (s)		22.3			41.7			20.3			20.1	
Confl. Peds. (#/hr)						5						5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	21.0
Total Split (s)	12.0	24.0	24.0	14.0	26.0		20.0	32.0		10.0	22.0	22.0
Total Split (%)	15.0%	30.0%	30.0%	17.5%	32.5%		25.0%	40.0%		12.5%	27.5%	27.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 71
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Coffee Rd & Claratina Ave

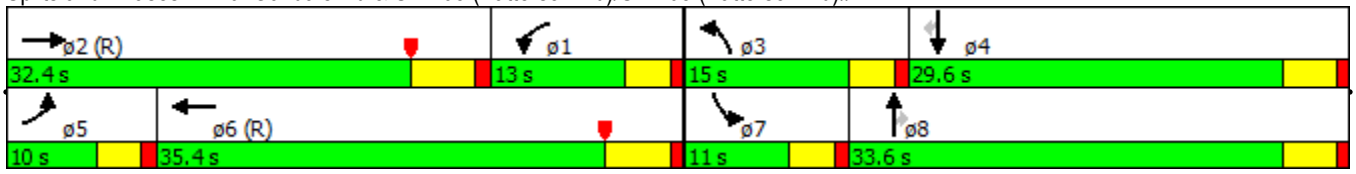
10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	300	50	200	590	40	120	50	100	50	90	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		0	200		0	150		75
Storage Lanes	1		0	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3274			2623			2223	
Travel Time (s)		42.0			63.8			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	10.0	32.4		13.0	35.4		15.0	33.6	33.6	11.0	29.6	29.6
Total Split (%)	11.1%	36.0%		14.4%	39.3%		16.7%	37.3%	37.3%	12.2%	32.9%	32.9%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	-0.6	-0.6	0.0	-0.6	-0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4



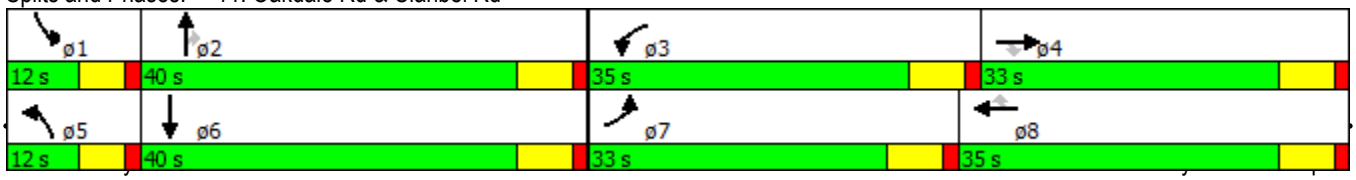
11: Oakdale Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	20	70	390	10	50	30	240	230	40	520	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	33.0	33.0	33.0	35.0	35.0	35.0	12.0	40.0	40.0	12.0	40.0	
Total Split (%)	27.5%	27.5%	27.5%	29.2%	29.2%	29.2%	10.0%	33.3%	33.3%	10.0%	33.3%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 65.2
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



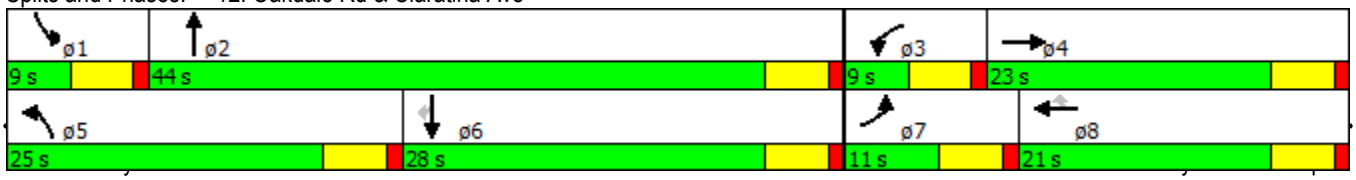
12: Oakdale Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	110	200	10	210	10	570	370	20	10	610	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	500		0	300		300
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1440			1326			2104			541	
Travel Time (s)		17.9			16.4			31.9			8.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0
Total Split (s)	11.0	23.0		9.0	21.0	21.0	25.0	44.0		9.0	28.0	28.0
Total Split (%)	12.9%	27.1%		10.6%	24.7%	24.7%	29.4%	51.8%		10.6%	32.9%	32.9%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 71.9
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Oakdale Rd & Claratina Ave



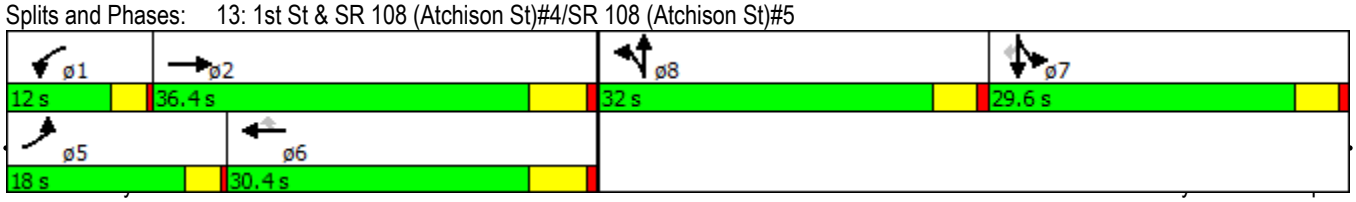
13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	240	20	20	350	180	50	190	40	160	130	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	75		150	250		0	175		100
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3283			3394			1265			1732	
Travel Time (s)		64.0			66.1			28.8			39.4	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	23%	23%	23%	23%	23%	23%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Detector Phase	5	2		1	6	6	8	8		7	7	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	29.6
Total Split (s)	18.0	36.4		12.0	30.4	30.4	32.0	32.0		29.6	29.6	29.6
Total Split (%)	16.4%	33.1%		10.9%	27.6%	27.6%	29.1%	29.1%		26.9%	26.9%	26.9%
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	-0.6	-0.6		-0.6	-0.6	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 88.2
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5



14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	50	140	40	50	30	20	270	20	20	370	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	CBD
Control Type: Unsignalized	

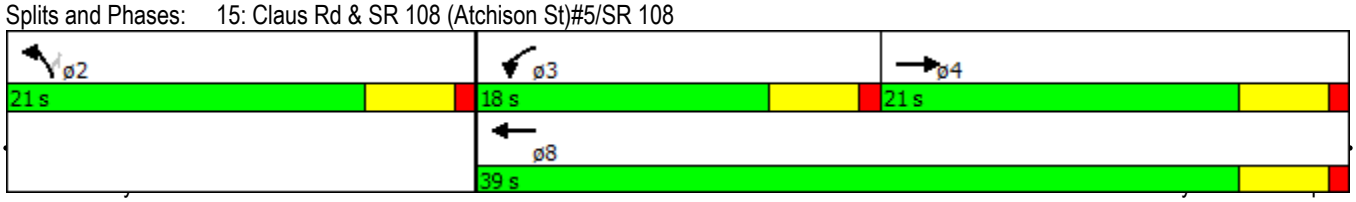
15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	250	140	210	490	80	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		300	400		0	150
Storage Lanes		1	1		1	1
Taper Length (ft)			60		60	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	883			934	1620	
Travel Time (s)	17.2			14.2	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	21.0		9.0	21.0	21.0	21.0
Total Split (s)	21.0		18.0	39.0	21.0	21.0
Total Split (%)	35.0%		30.0%	65.0%	35.0%	35.0%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 41.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108



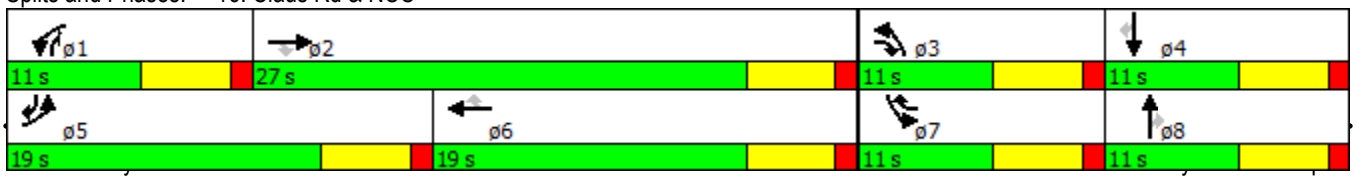
16: Claus Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	730	150	100	540	30	130	190	80	20	180	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		1000	520		720
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1709			1204			1344	
Travel Time (s)		14.4			21.2			14.9			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	19.0	27.0	11.0	11.0	19.0	11.0	11.0	11.0	11.0	11.0	11.0	19.0
Total Split (%)	31.7%	45.0%	18.3%	18.3%	31.7%	18.3%	18.3%	18.3%	18.3%	18.3%	18.3%	31.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 51
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & NCC



17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	70	130	170	40	60	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	300
Storage Lanes	1			0	1	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		45	
Link Distance (ft)		2918	5382		860	
Travel Time (s)		36.2	66.7		13.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

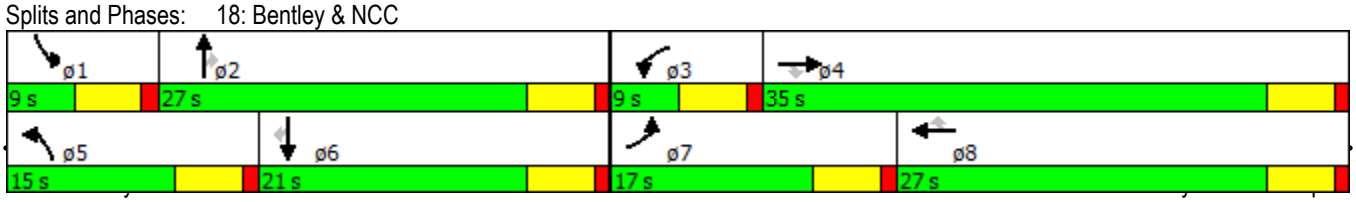
18: Bentley & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	660	60	10	560	10	80	50	10	10	80	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	680		580	770		720	200		300	150		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2827			2462			1526			1244	
Travel Time (s)		35.0			30.5			23.1			18.8	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	17.0	35.0	35.0	9.0	27.0	27.0	15.0	27.0	27.0	9.0	21.0	21.0
Total Split (%)	21.3%	43.8%	43.8%	11.3%	33.8%	33.8%	18.8%	33.8%	33.8%	11.3%	26.3%	26.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 59.5
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 18: Bentley & NCC



19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	320	50	40	190	70	90	60	20	110	60	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	250		300	250		0	100		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		1648			2595			1311			1681	
Travel Time (s)		28.1			59.0			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	19%	2%	2%	19%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3		9.0	29.3		32.0	32.0		34.0	34.0	34.0
Total Split (s)	13.0	36.0		10.0	33.0		34.0	34.0		34.0	34.0	34.0
Total Split (%)	16.3%	45.0%		12.5%	41.3%		42.5%	42.5%		42.5%	42.5%	42.5%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 37.7
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

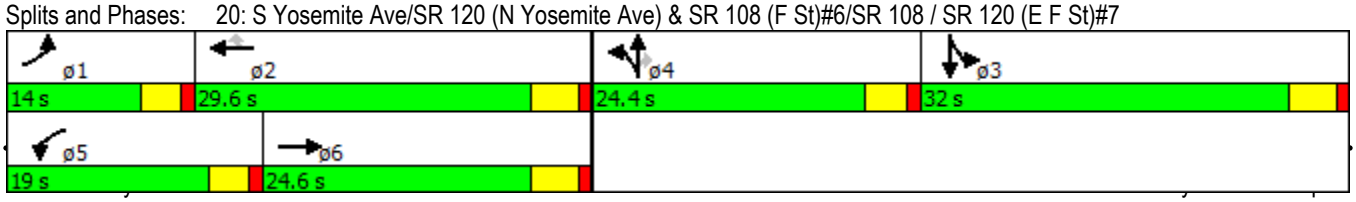
20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	300	70	160	220	290	100	320	130	300	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2713			2600			1983			5906	
Travel Time (s)		74.0			59.1			45.1			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	19%	19%	19%	19%	19%	19%	20%	20%	20%	20%	20%	20%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	14.0	24.6		19.0	29.6	29.6	24.4	24.4	24.4	32.0	32.0	
Total Split (%)	14.0%	24.6%		19.0%	29.6%	29.6%	24.4%	24.4%	24.4%	32.0%	32.0%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-0.6		0.0	-0.6	-0.6		-0.2	-0.2		-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 91.7
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7



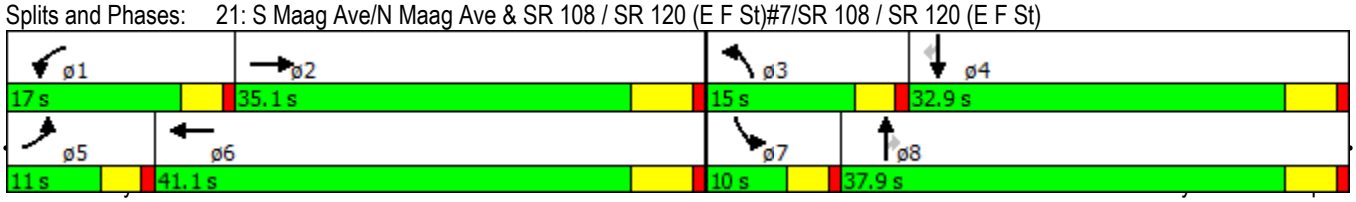
21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	360	150	150	380	40	260	110	80	30	150	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2050			2745			1922			2964	
Travel Time (s)		39.9			53.5			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	19%	2%	2%	19%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	11.0	35.1		17.0	41.1		15.0	37.9	37.9	10.0	32.9	32.9
Total Split (%)	11.0%	35.1%		17.0%	41.1%		15.0%	37.9%	37.9%	10.0%	32.9%	32.9%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	-0.9	-0.9	0.0	-0.9	-0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 68.6
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)



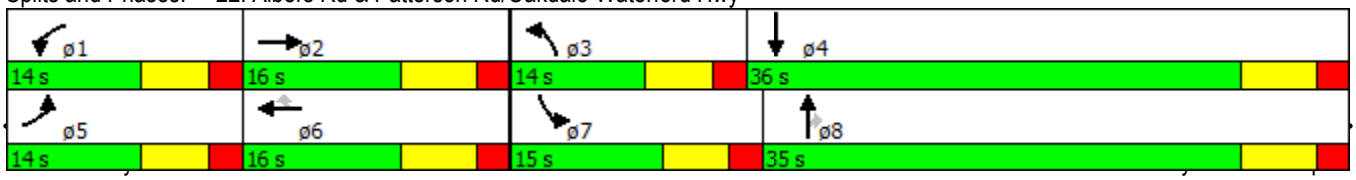
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	30	50	60	150	140	50	830	40	100	740	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		150
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2234			1521			2243	
Travel Time (s)		70.0			27.7			18.9			27.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	14.0	14.5		14.0	14.5	14.5	14.0	14.5	14.5	14.0	14.5	
Total Split (s)	14.0	16.0		14.0	16.0	16.0	14.0	35.0	35.0	15.0	36.0	
Total Split (%)	17.5%	20.0%		17.5%	20.0%	20.0%	17.5%	43.8%	43.8%	18.8%	45.0%	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5		-2.0	-2.5	-2.5	-2.0	-2.5	0.0	-2.0	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	6.5	4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 69.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



23: Albers & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	30	10	10	20	410	80	10	520	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	18%	18%	18%	18%	18%	18%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	10.0	31.0	31.0	10.0	31.0		11.0	38.0		11.0	38.0	38.0
Total Split (%)	11.1%	34.4%	34.4%	11.1%	34.4%		12.2%	42.2%		12.2%	42.2%	42.2%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 41.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel

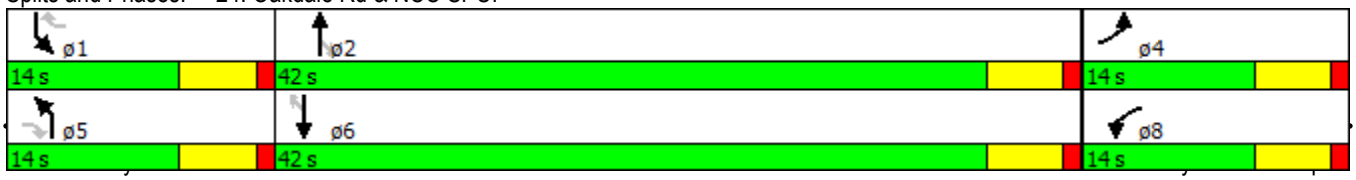
24: Oakdale Rd & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	60	30	120	20	30	420	360	30	600	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	14.0	14.0	14.0	14.0	14.0	42.0	42.0	14.0	42.0	42.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%	60.0%	60.0%	20.0%	60.0%	60.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 38.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 24: Oakdale Rd & NCC SPUI



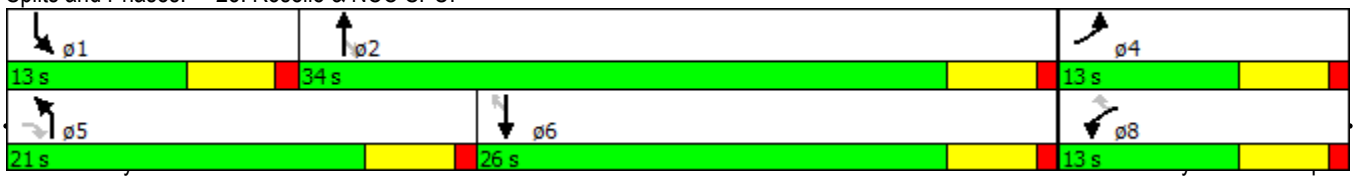
25: Roselle & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	10	90	130	40	150	260	190	40	460	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		400			550		
Storage Lanes	2		1		1			1		
Taper Length (ft)	60		60		60			60		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						782			1192	
Travel Time (s)						11.8			18.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		8			2			6
Detector Phase	4	5	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	13.0	21.0	13.0	13.0	21.0	34.0	34.0	13.0	26.0	26.0
Total Split (%)	21.7%	35.0%	21.7%	21.7%	35.0%	56.7%	56.7%	21.7%	43.3%	43.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 43.3
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Roselle & NCC SPUI



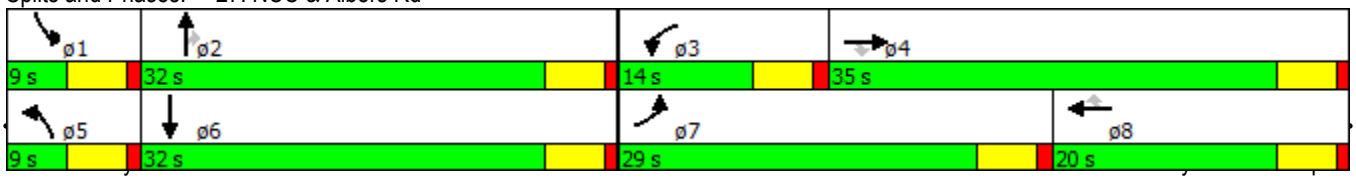
27: NCC & Albers Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	610	40	30	170	80	10	10	300	180	10	350	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	920		580	720		580	200		300	200		0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			55	
Link Distance (ft)		1226			3062			2830			1521	
Travel Time (s)		15.2			38.0			64.3			18.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			Free
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	
Total Split (s)	29.0	35.0	35.0	14.0	20.0	20.0	9.0	32.0	32.0	9.0	32.0	
Total Split (%)	32.2%	38.9%	38.9%	15.6%	22.2%	22.2%	10.0%	35.6%	35.6%	10.0%	35.6%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 61.8
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: NCC & Albers Rd



28: NCC & SMITH

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	150	10	10	190	10	10	10	10	10	10	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	870		670	650		650	0		0	0		630
Storage Lanes	1		1	1		1	0		0	0		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		5410			4096			1366			1125	
Travel Time (s)		67.1			50.8			31.0			25.6	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2			6		6
Detector Phase	7	4	4	3	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	20.0	27.0	27.0	13.0	20.0	20.0	20.0	20.0		20.0	20.0	20.0
Total Split (%)	33.3%	45.0%	45.0%	21.7%	33.3%	33.3%	33.3%	33.3%		33.3%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 31.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 28: NCC & SMITH

29: NCC & SR 120/108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	190	70	140	180	20	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	820		0	0
Storage Lanes		0	0		1	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2790			1209	1731	
Travel Time (s)	34.6			15.0	21.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Yield			Yield	Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

30: SR 108 (McHenry Ave)#2 & Charity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	10	10	10	80	470	10	10	720	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1308			1150			2456	
Travel Time (s)		21.7			29.7			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	12.0	12.0		12.0	12.0		17.0	36.0	36.0	12.0	31.0	31.0
Total Split (%)	20.0%	20.0%		20.0%	20.0%		28.3%	60.0%	60.0%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 36.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity

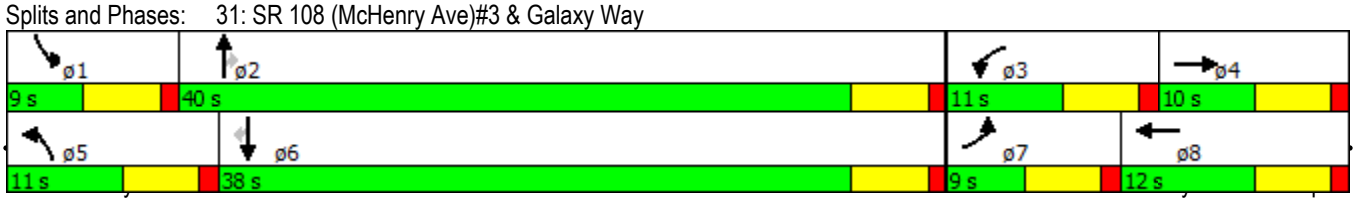
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	30	10	40	30	420	20	30	770	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	9.0	10.0		11.0	12.0		11.0	40.0	40.0	9.0	38.0	38.0
Total Split (%)	12.9%	14.3%		15.7%	17.1%		15.7%	57.1%	57.1%	12.9%	54.3%	54.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 41.9
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	20	10	10	10	230	10	10	530	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1322			2095			1060			1396	
Travel Time (s)		30.0			47.6			16.1			21.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	10	10	10	20	10	660	10	20	570	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		823			1152			1312			1052	
Travel Time (s)		18.7			26.2			19.9			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	30	20	10	20	10	760	10	10	730	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			411			1462	
Travel Time (s)		15.7			12.6			6.2			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

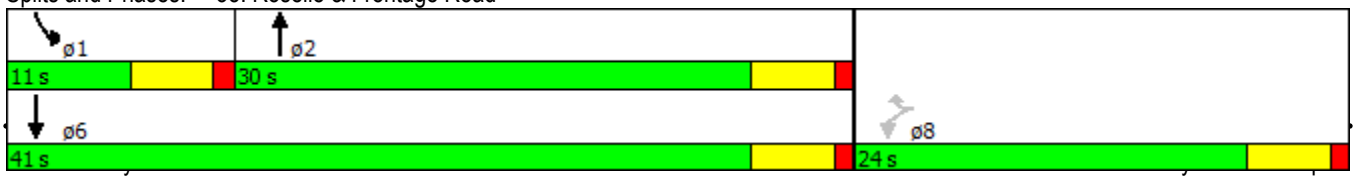
35: Roselle & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	20	100	500	20	20	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	24.0	24.0	30.0		11.0	41.0
Total Split (%)	36.9%	36.9%	46.2%		16.9%	63.1%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 36.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road



36: Davis & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	80	10	10	70	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

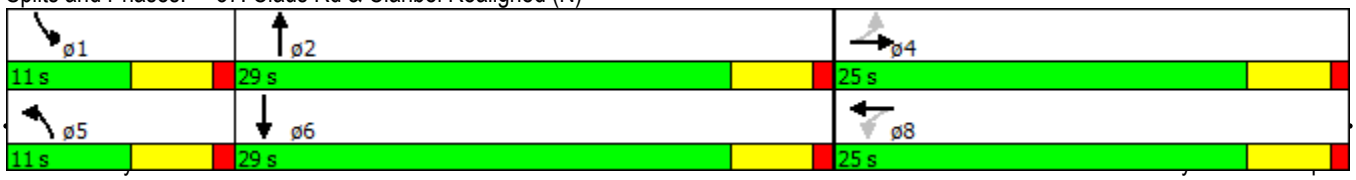
37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	10	30	80	10	10	10	310	100	20	400	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	25.0	25.0		25.0	25.0		11.0	29.0		11.0	29.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%		16.9%	44.6%		16.9%	44.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 32.6
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)



38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	40	360	40	40	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			904
Travel Time (s)	12.0		43.7			11.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

40: NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	150	10	10	190	10	10	10	10	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2897			3444			697			901	
Travel Time (s)		35.9			42.7			15.8			20.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	0	0	420	160	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	0		1	0	
Taper Length (ft)	60				60	
Link Speed (mph)	30		55			55
Link Distance (ft)	1305		1260			2486
Travel Time (s)	29.7		15.6			30.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	420	0	0	0	0	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2486			1462	745	
Travel Time (s)	30.8			18.1	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1110	440	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2484	1481		1250	
Travel Time (s)		30.8	18.4		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

62: NCC SPUI

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	850	100	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2138			2475	1369	
Travel Time (s)	26.5			30.7	31.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	580	0	0	0	1410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	3
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2690	1260		432	
Travel Time (s)		33.3	15.6		5.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	810	0	0	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		868	2501		1267	
Travel Time (s)		10.8	31.0		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	850	0	0	0	0	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	55	
Link Distance (ft)	2475			727	1175	
Travel Time (s)	30.7			16.5	14.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

84: NCC SPUI

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	810	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1306			2501	1150	
Travel Time (s)	29.7			31.0	14.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	1110	0	0	0	0	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2484		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

117: NCC SPUI

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	870	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	870	0	0	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2312	2226		1058	
Travel Time (s)		28.7	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

122: NCC

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	980	0	1080
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

125: NCC SPUI & NCC

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	560	90	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2274			2293	1098	
Travel Time (s)	28.2			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	560	0	0	0	0	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	440	0	0	0	0	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	45	
Link Distance (ft)	2052			616	1091	
Travel Time (s)	25.4			14.0	16.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	440	110	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	30	
Link Distance (ft)	1627			2052	1054	
Travel Time (s)	20.2			46.6	24.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)		10%				
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	960	290	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		2152	1346		1081	
Travel Time (s)		48.9	16.7		24.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

201:

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	960	0	0	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		1496	2152		477	
Travel Time (s)		34.0	26.7		10.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

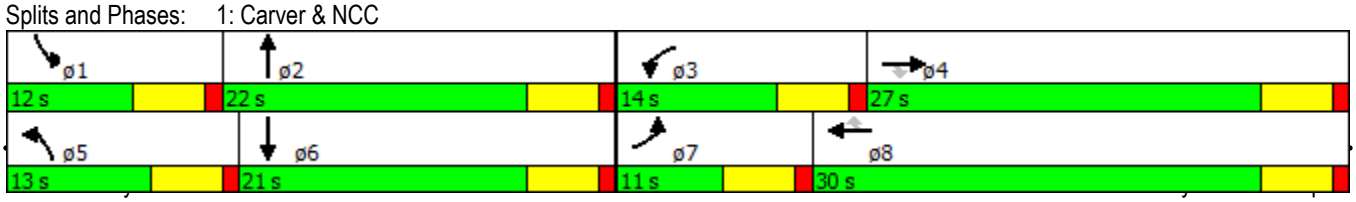
1: Carver & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	970	150	90	960	40	80	90	100	60	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Total Split (s)	11.0	27.0	27.0	14.0	30.0	30.0	13.0	22.0		12.0	21.0	
Total Split (%)	14.7%	36.0%	36.0%	18.7%	40.0%	40.0%	17.3%	29.3%		16.0%	28.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 63.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC



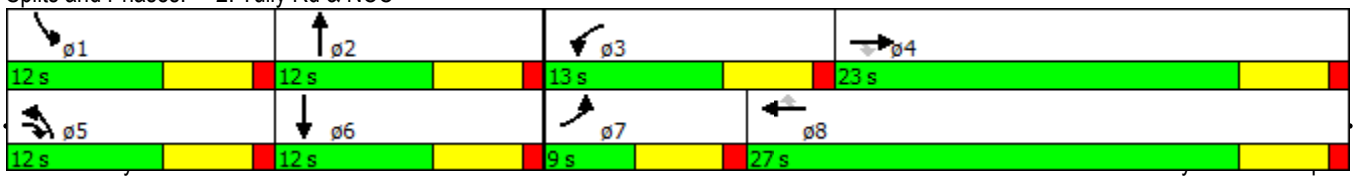
2: Tully Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	940	170	310	820	40	250	160	480	70	140	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Total Split (s)	9.0	23.0	12.0	13.0	27.0	27.0	12.0	12.0		12.0	12.0	
Total Split (%)	15.0%	38.3%	20.0%	21.7%	45.0%	45.0%	20.0%	20.0%		20.0%	20.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 55.3
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



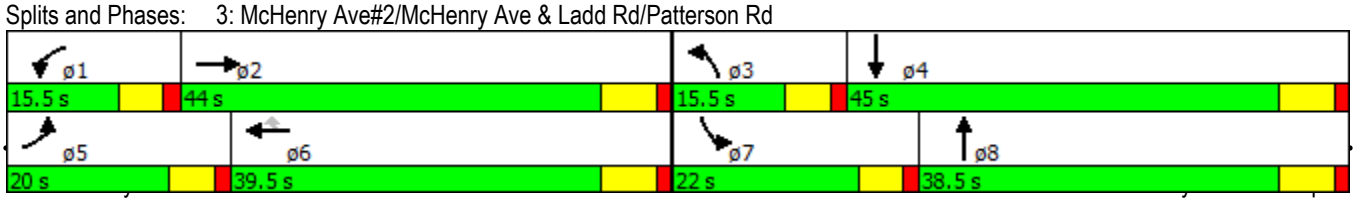
3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	310	20	10	310	90	60	430	10	220	480	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	38.5		15.5	38.5	38.5	15.5	38.5		15.5	38.5	
Total Split (s)	20.0	44.0		15.5	39.5	39.5	15.5	38.5		22.0	45.0	
Total Split (%)	16.7%	36.7%		12.9%	32.9%	32.9%	12.9%	32.1%		18.3%	37.5%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 100.2
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd



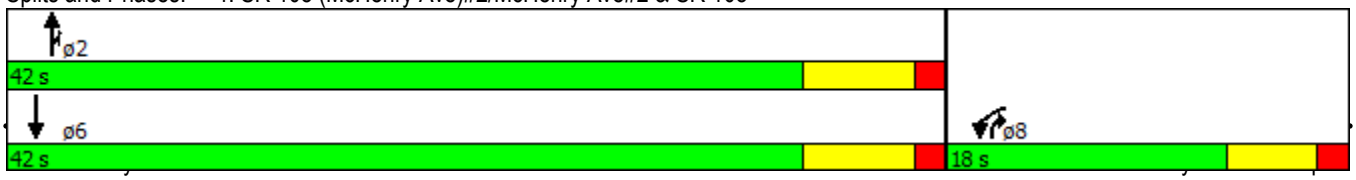
4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	100	10	490	260	0	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	18.0		42.0			42.0
Total Split (%)	30.0%		70.0%			70.0%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 47.3
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108



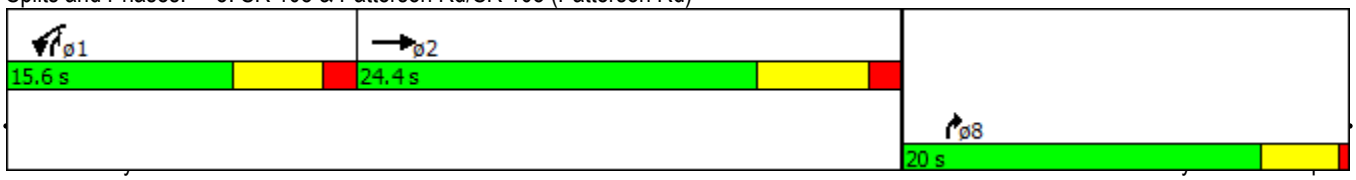
5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	530	10	100	410	0	260	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		60		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	8%	8%	8%	8%	9%	9%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	24.4		15.6				20.0
Total Split (%)	40.7%		26.0%				33%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 53.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)



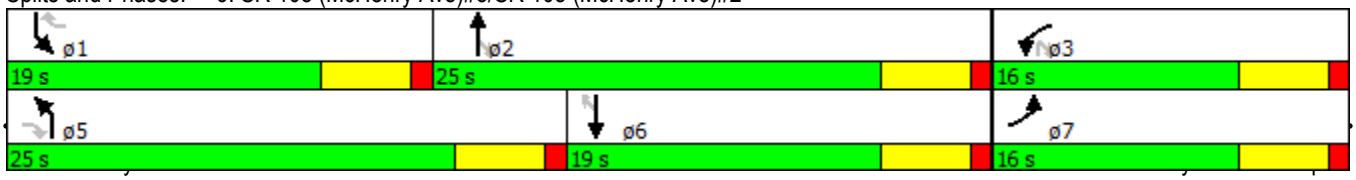
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	230	200	200	140	130	580	430	100	450	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		1		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			No			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	16.0	25.0	16.0	19.0	25.0	25.0		19.0	19.0	19.0
Total Split (%)	26.7%	41.7%	26.7%	31.7%	41.7%	41.7%		31.7%	31.7%	31.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 48.6
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2



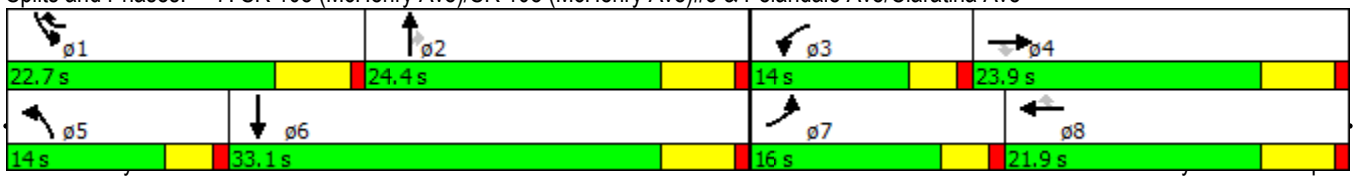
7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	980	370	270	600	160	290	910	290	490	910	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		350	300		350	225		200	500		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	60			60			60			120		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4998			3460			3932			1543	
Travel Time (s)		75.7			52.4			67.0			26.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.0	15.7	15.7	9.0	15.7	10.7	9.0	15.7	15.7	10.7	15.7	
Total Split (s)	16.0	23.9	23.9	14.0	21.9	22.7	14.0	24.4	24.4	22.7	33.1	
Total Split (%)	18.8%	28.1%	28.1%	16.5%	25.8%	26.7%	16.5%	28.7%	28.7%	26.7%	38.9%	
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 84
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave



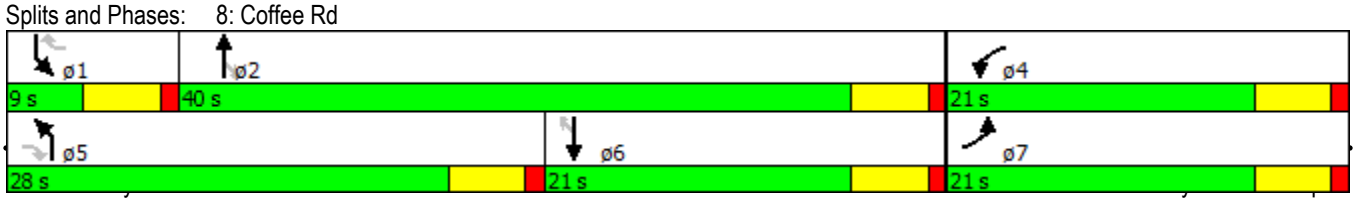
8: Coffee Rd

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	370	130	210	10	240	210	290	20	230	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		600			650		
Storage Lanes	1		1		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1052			1060	
Travel Time (s)						15.9			16.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		4		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	7	5	4	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	21.0	28.0	21.0	9.0	28.0	40.0	40.0	9.0	21.0	21.0
Total Split (%)	30.0%	40.0%	30.0%	12.9%	40.0%	57.1%	57.1%	12.9%	30.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 49.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd



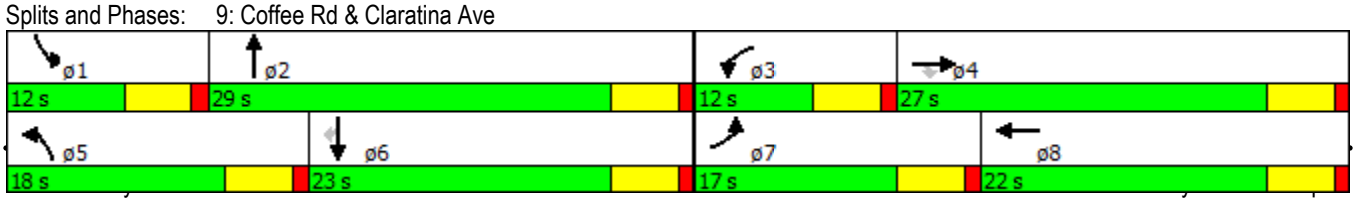
9: Coffee Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	940	400	60	530	80	320	400	80	60	240	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		0	300		0	300		300
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1474			3364			1337			1327	
Travel Time (s)		22.3			41.7			20.3			20.1	
Confl. Peds. (#/hr)						5						5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	44%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	21.0
Total Split (s)	17.0	27.0	27.0	12.0	22.0		18.0	29.0		12.0	23.0	23.0
Total Split (%)	21.3%	33.8%	33.8%	15.0%	27.5%		22.5%	36.3%		15.0%	28.8%	28.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 67.4
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Coffee Rd & Claratina Ave



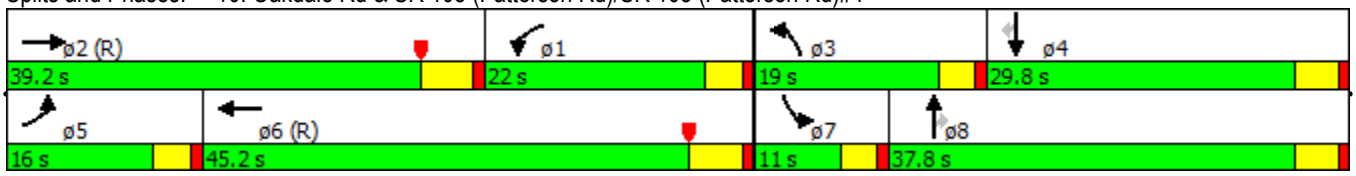
10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	640	120	380	390	30	140	80	290	50	60	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		0	200		0	150		75
Storage Lanes	1		0	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3274			2623			2223	
Travel Time (s)		42.0			63.8			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	16.0	39.2		22.0	45.2		19.0	37.8	37.8	11.0	29.8	29.8
Total Split (%)	14.5%	35.6%		20.0%	41.1%		17.3%	34.4%	34.4%	10.0%	27.1%	27.1%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	-0.6	-0.6	0.0	-0.6	-0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4



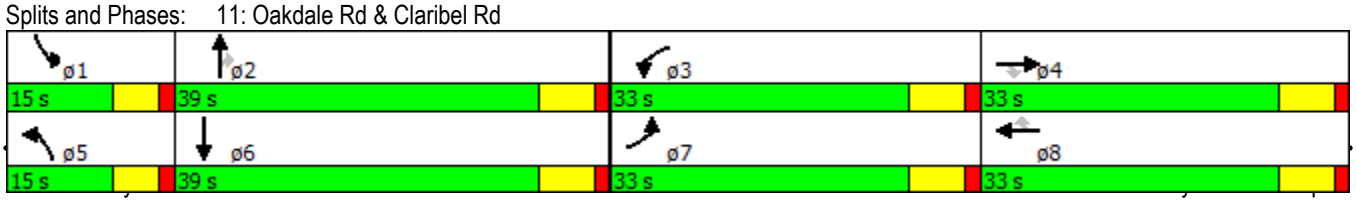
11: Oakdale Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	20	100	360	10	40	60	500	360	60	500	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	15.0	39.0	39.0	15.0	39.0	
Total Split (%)	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	12.5%	32.5%	32.5%	12.5%	32.5%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 68.9
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



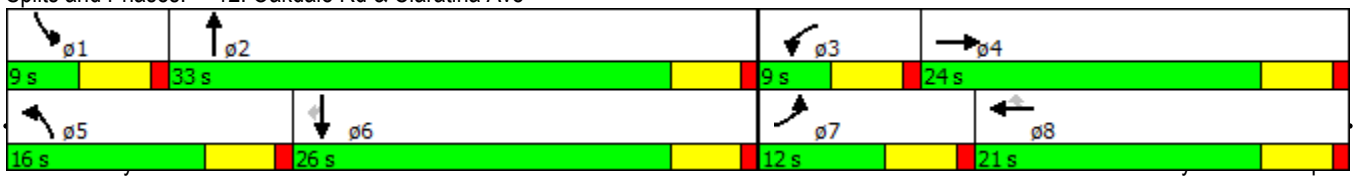
12: Oakdale Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	290	650	20	200	20	340	680	40	20	600	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	500		0	300		300
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1440			1326			2104			587	
Travel Time (s)		17.9			16.4			31.9			8.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	6%	6%	6%	6%	6%	66%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0
Total Split (s)	12.0	24.0		9.0	21.0	21.0	16.0	33.0		9.0	26.0	26.0
Total Split (%)	16.0%	32.0%		12.0%	28.0%	28.0%	21.3%	44.0%		12.0%	34.7%	34.7%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 63.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Oakdale Rd & Claratina Ave



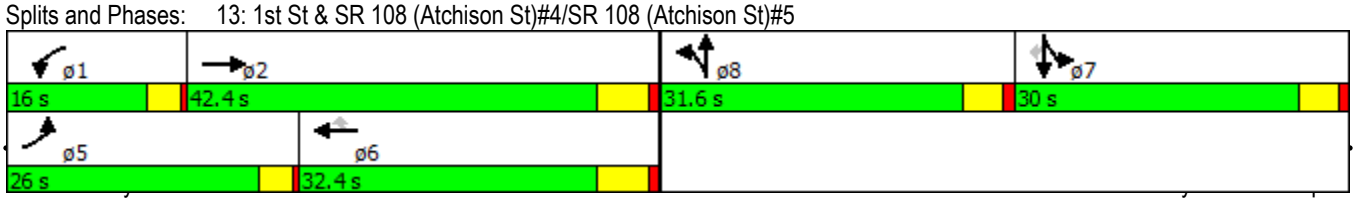
13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	490	30	30	290	120	60	220	30	220	180	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	75		150	250		0	175		100
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3283			3394			1265			1732	
Travel Time (s)		64.0			66.1			28.8			39.4	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	16%	16%	16%	16%	16%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Detector Phase	5	2		1	6	6	8	8		7	7	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	29.6
Total Split (s)	26.0	42.4		16.0	32.4	32.4	31.6	31.6		30.0	30.0	30.0
Total Split (%)	21.7%	35.3%		13.3%	27.0%	27.0%	26.3%	26.3%		25.0%	25.0%	25.0%
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	-0.6	-0.6		-0.6	-0.6	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 101.6
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5



14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	50	100	50	60	20	130	370	20	30	310	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	CBD
Control Type: Unsignalized	

15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	590	210	260	370	50	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		300	400		0	150
Storage Lanes		1	1		1	1
Taper Length (ft)			60		60	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	883			934	1620	
Travel Time (s)	17.2			14.2	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	21.0		9.0	21.0	21.0	21.0
Total Split (s)	32.0		27.0	59.0	21.0	21.0
Total Split (%)	40.0%		33.8%	73.8%	26.3%	26.3%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 58.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

16: Claus Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	590	200	220	510	40	230	130	170	30	200	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		1000	520		720
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1709			1204			1344	
Travel Time (s)		14.4			21.2			14.9			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	17.0	26.0	11.0	11.0	20.0	11.0	11.0	12.0	11.0	11.0	12.0	17.0
Total Split (%)	28.3%	43.3%	18.3%	18.3%	33.3%	18.3%	18.3%	20.0%	18.3%	18.3%	20.0%	28.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 54.8
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & NCC

17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	190	200	160	50	60	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	300
Storage Lanes	1			0	1	1
Taper Length (ft)	60				60	
Right Turn on Red				Yes		Yes
Link Speed (mph)		55	55		45	
Link Distance (ft)		2918	5382		860	
Travel Time (s)		36.2	66.7		13.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	7	4	8			
Permitted Phases					6	6
Detector Phase	7	4	8		6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.0	20.0	20.0		20.0	20.0
Total Split (s)	23.0	46.0	23.0		24.0	24.0
Total Split (%)	32.9%	65.7%	32.9%		34.3%	34.3%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min		None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 40.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 17: Patterson Rd & Crane Rd

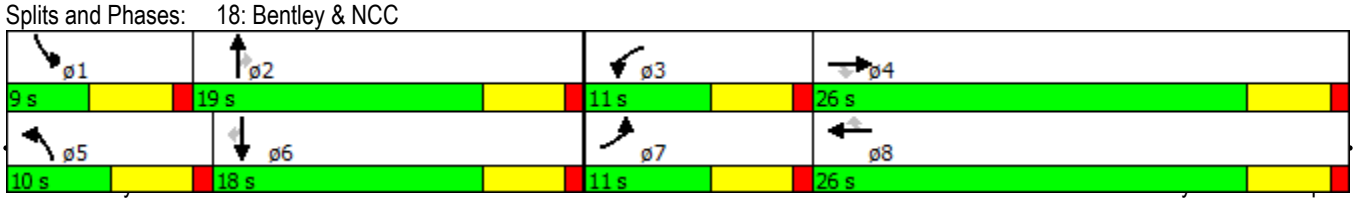
18: Bentley & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	620	120	50	610	10	30	80	10	10	70	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	680		580	770		720	200		300	150		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		8000			2444			1526			1244	
Travel Time (s)		99.2			30.3			23.1			18.8	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	11.0	26.0	26.0	11.0	26.0	26.0	10.0	19.0	19.0	9.0	18.0	18.0
Total Split (%)	16.9%	40.0%	40.0%	16.9%	40.0%	40.0%	15.4%	29.2%	29.2%	13.8%	27.7%	27.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 41
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 18: Bentley & NCC



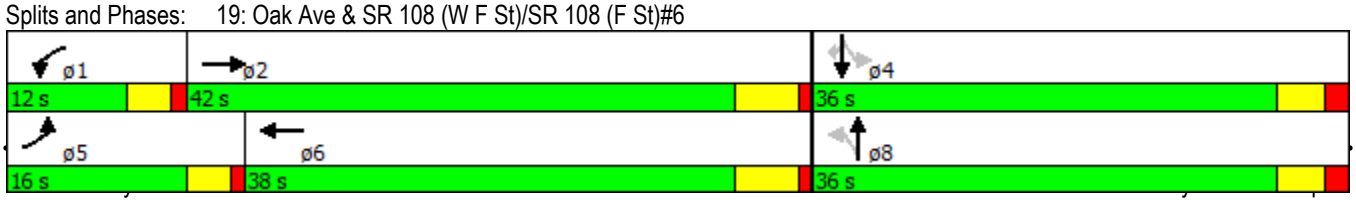
19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	530	40	30	490	70	90	50	60	90	40	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	250		300	250		0	100		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		1648			2595			1311			1681	
Travel Time (s)		28.1			59.0			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	13%	2%	2%	13%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3		9.0	29.3		32.0	32.0		34.0	34.0	34.0
Total Split (s)	16.0	42.0		12.0	38.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	17.8%	46.7%		13.3%	42.2%		40.0%	40.0%		40.0%	40.0%	40.0%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 45.8
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6



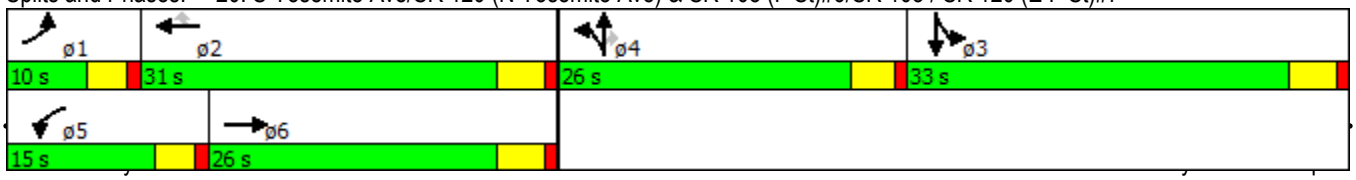
20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	380	60	110	320	360	120	460	150	300	410	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2713			2600			1983			5906	
Travel Time (s)		74.0			59.1			45.1			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	15%	15%	15%	15%	15%	15%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	10.0	26.0		15.0	31.0	31.0	26.0	26.0	26.0	33.0	33.0	
Total Split (%)	10.0%	26.0%		15.0%	31.0%	31.0%	26.0%	26.0%	26.0%	33.0%	33.0%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-0.6		0.0	-0.6	-0.6		-0.2	-0.2		-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 94.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7



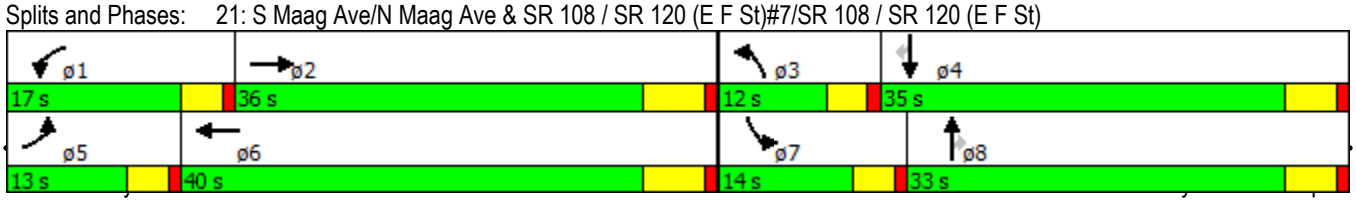
21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	270	180	110	350	80	140	170	190	80	120	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2050			2745			1922			2964	
Travel Time (s)		39.9			53.5			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	13%	2%	2%	13%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	13.0	36.0		17.0	40.0		12.0	33.0	33.0	14.0	35.0	35.0
Total Split (%)	13.0%	36.0%		17.0%	40.0%		12.0%	33.0%	33.0%	14.0%	35.0%	35.0%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	-0.9	-0.9	0.0	-0.9	-0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 57.4
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)



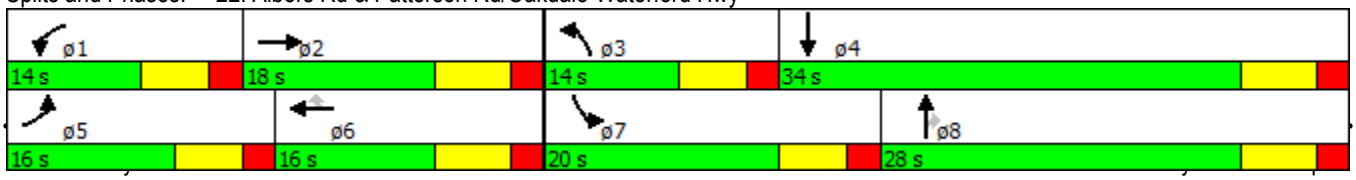
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	190	50	40	60	120	50	630	70	180	720	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		150
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2234			1519			2243	
Travel Time (s)		70.0			27.7			18.8			27.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	14.0	14.5		14.0	14.5	14.5	14.0	14.5	14.5	14.0	14.5	
Total Split (s)	16.0	18.0		14.0	16.0	16.0	14.0	28.0	28.0	20.0	34.0	
Total Split (%)	20.0%	22.5%		17.5%	20.0%	20.0%	17.5%	35.0%	35.0%	25.0%	42.5%	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5		-2.0	-2.5	-2.5	-2.0	-2.5	0.0	-2.0	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	6.5	4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 71.3
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



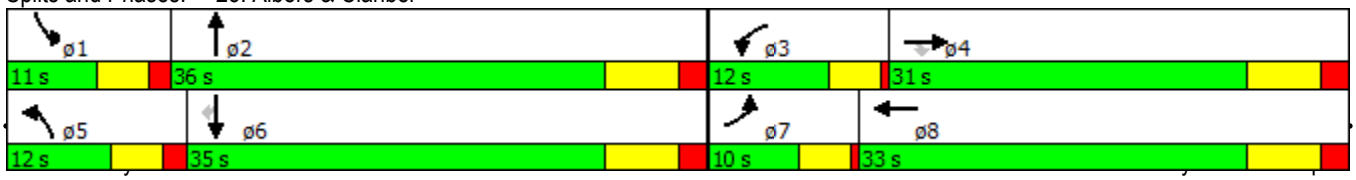
23: Albers & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	40	20	10	20	530	40	20	380	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	10.0	31.0	31.0	12.0	33.0		12.0	36.0		11.0	35.0	35.0
Total Split (%)	11.1%	34.4%	34.4%	13.3%	36.7%		13.3%	40.0%		12.2%	38.9%	38.9%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 43.9
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel



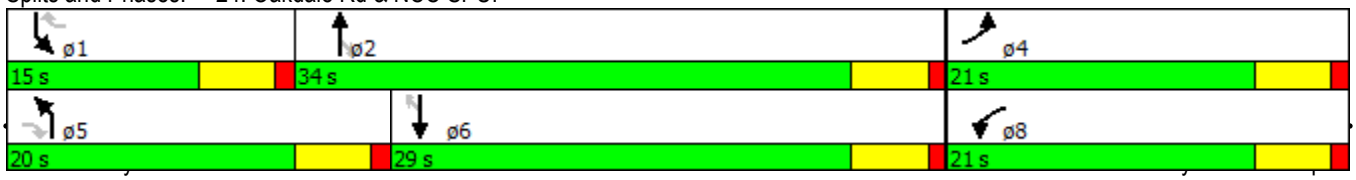
24: Oakdale Rd & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	330	120	180	70	10	520	150	40	630	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	21.0	20.0	21.0	15.0	20.0	34.0	34.0	15.0	29.0	29.0
Total Split (%)	30.0%	28.6%	30.0%	21.4%	28.6%	48.6%	48.6%	21.4%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 49.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 24: Oakdale Rd & NCC SPUI



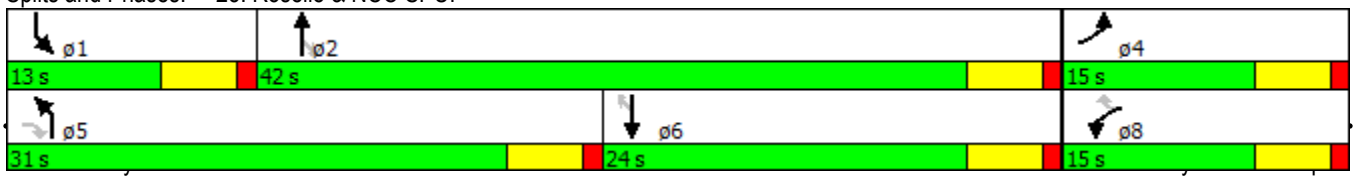
25: Roselle & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	50	250	90	70	120	400	210	50	380	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		500		400			550		
Storage Lanes	2		1		1			1		
Taper Length (ft)	60		60		60			60		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						782			1192	
Travel Time (s)						11.8			18.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		8			2			6
Detector Phase	4	5	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	15.0	31.0	15.0	15.0	31.0	42.0	42.0	13.0	24.0	24.0
Total Split (%)	21.4%	44.3%	21.4%	21.4%	44.3%	60.0%	60.0%	18.6%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 48.8
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Roselle & NCC SPUI



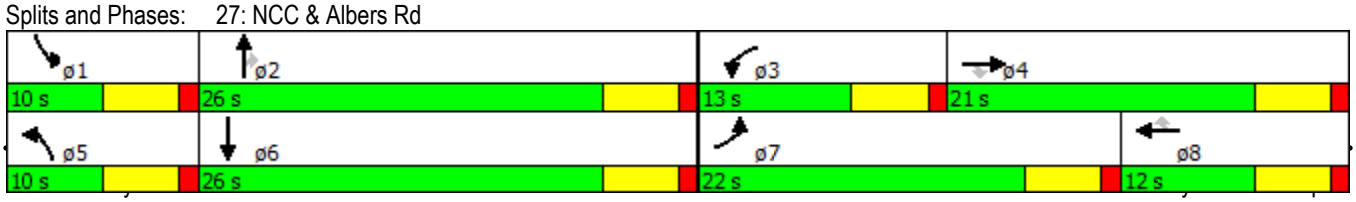
27: NCC & Albers Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	480	150	10	170	140	20	10	250	250	10	280	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	920		580	720		580	200		300	200		0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			55	
Link Distance (ft)		1228			3059			2830			1519	
Travel Time (s)		15.2			37.9			64.3			18.8	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			Free
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	
Total Split (s)	22.0	21.0	21.0	13.0	12.0	12.0	10.0	26.0	26.0	10.0	26.0	
Total Split (%)	31.4%	30.0%	30.0%	18.6%	17.1%	17.1%	14.3%	37.1%	37.1%	14.3%	37.1%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 51.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: NCC & Albers Rd



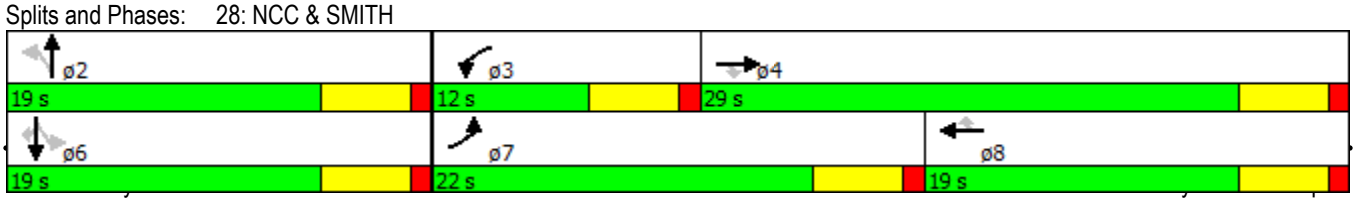
28: NCC & SMITH

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	280	10	10	220	10	10	10	10	10	30	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	870		670	650		650	0		0	0		630
Storage Lanes	1		1	1		1	0		0	0		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		5417			4096			1366			1125	
Travel Time (s)		67.2			50.8			31.0			25.6	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2			6		6
Detector Phase	7	4	4	3	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	22.0	29.0	29.0	12.0	19.0	19.0	19.0	19.0		19.0	19.0	19.0
Total Split (%)	36.7%	48.3%	48.3%	20.0%	31.7%	31.7%	31.7%	31.7%		31.7%	31.7%	31.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 36.1
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 28: NCC & SMITH



29: NCC & SR 120/108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	250	30	210	220	70	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	820		0	0
Storage Lanes		0	0		1	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2790			1209	1665	
Travel Time (s)	34.6			15.0	20.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Yield			Yield	Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

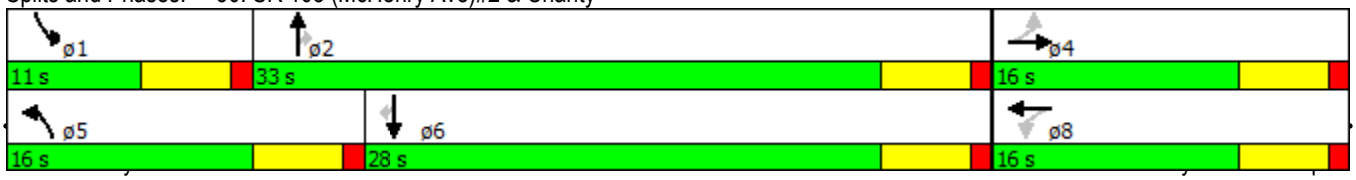
30: SR 108 (McHenry Ave)#2 & Charity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	10	100	20	20	20	80	850	20	20	570	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1299			1150			2456	
Travel Time (s)		21.7			29.5			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	16.0	16.0		16.0	16.0		16.0	33.0	33.0	11.0	28.0	28.0
Total Split (%)	26.7%	26.7%		26.7%	26.7%		26.7%	55.0%	55.0%	18.3%	46.7%	46.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 39.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity



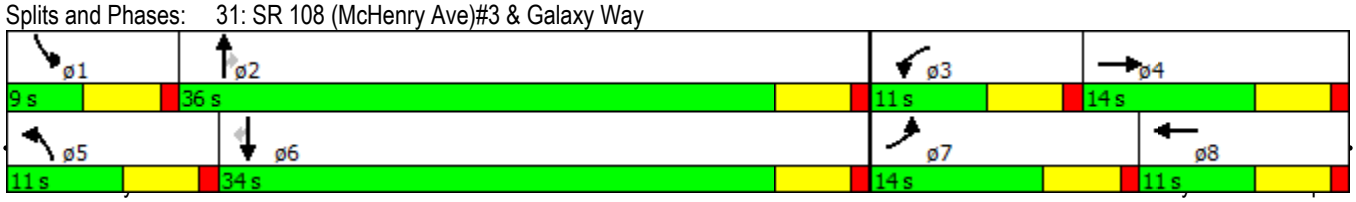
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	10	70	40	10	60	40	1000	40	60	730	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	14.0	14.0		11.0	11.0		11.0	36.0	36.0	9.0	34.0	34.0
Total Split (%)	20.0%	20.0%		15.7%	15.7%		15.7%	51.4%	51.4%	12.9%	48.6%	48.6%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 53.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



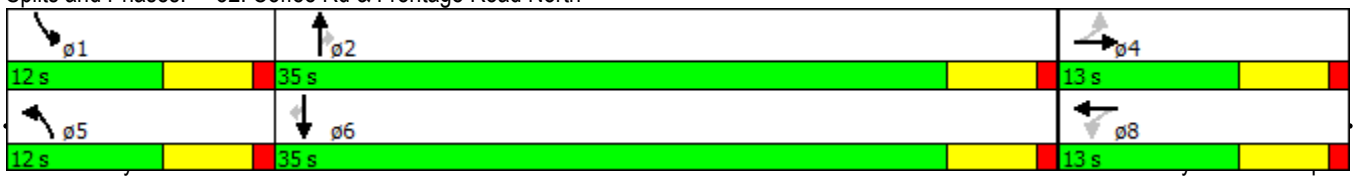
32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	20	10	10	10	560	20	10	360	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1320			2114			1060			1380	
Travel Time (s)		30.0			48.0			16.1			20.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	13.0	13.0		13.0	13.0		12.0	35.0	35.0	12.0	35.0	35.0
Total Split (%)	21.7%	21.7%		21.7%	21.7%		20.0%	58.3%	58.3%	20.0%	58.3%	58.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 32.3
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 32: Coffee Rd & Frontage Road North



33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	10	10	10	20	10	700	10	20	530	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		819			1151			1312			1052	
Travel Time (s)		18.6			26.2			19.9			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	11.0	11.0		11.0	11.0		11.0	38.0	38.0	11.0	38.0	38.0
Total Split (%)	18.3%	18.3%		18.3%	18.3%		18.3%	63.3%	63.3%	18.3%	63.3%	63.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 33
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Coffee Rd & Frontage Road South

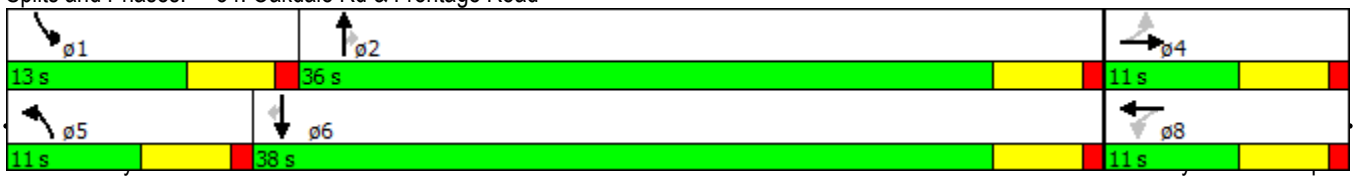
34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	10	10	10	20	650	20	40	850	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			411			1462	
Travel Time (s)		15.7			12.6			6.2			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	11.0	11.0		11.0	11.0		11.0	36.0	36.0	13.0	38.0	38.0
Total Split (%)	18.3%	18.3%		18.3%	18.3%		18.3%	60.0%	60.0%	21.7%	63.3%	63.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 38.1
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Oakdale Rd & Frontage Road



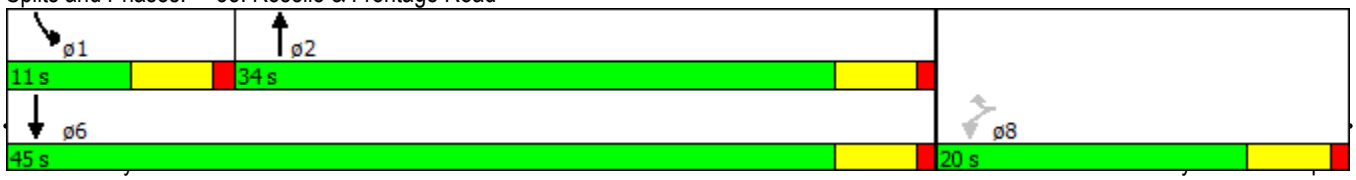
35: Roselle & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	40	690	40	40	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	20.0	20.0	34.0		11.0	45.0
Total Split (%)	30.8%	30.8%	52.3%		16.9%	69.2%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 40.2
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road



36: Davis & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	110	10	10	100	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

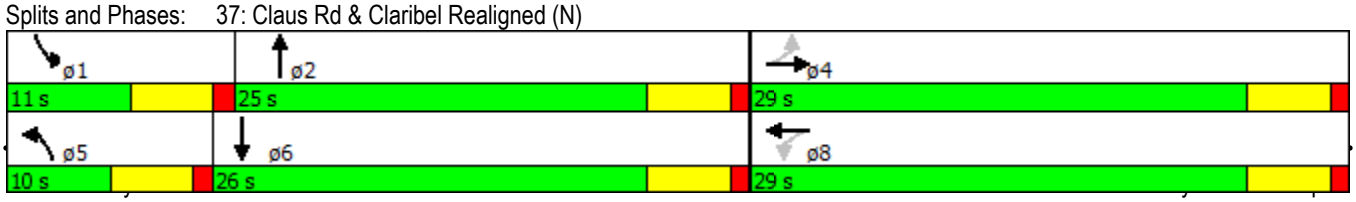
37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	20	210	10	30	20	430	30	40	300	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	29.0	29.0		29.0	29.0		10.0	25.0		11.0	26.0	
Total Split (%)	44.6%	44.6%		44.6%	44.6%		15.4%	38.5%		16.9%	40.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 44.3
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)



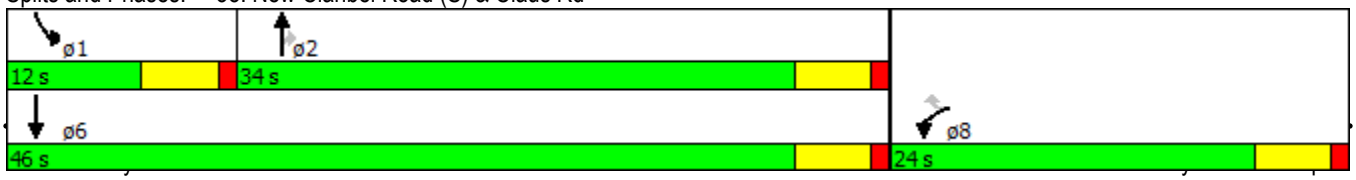
38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	40	490	40	40	580
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			904
Travel Time (s)	12.0		43.7			11.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	9.0	21.0
Total Split (s)	24.0	24.0	34.0	34.0	12.0	46.0
Total Split (%)	34.3%	34.3%	48.6%	48.6%	17.1%	65.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 37.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 38: New Claribel Road (S) & Claus Rd



40: NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	280	10	10	220	10	10	10	10	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	720		720	720		720	300		0	300		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3128			3541			720			1120	
Travel Time (s)		38.8			43.9			16.4			25.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	0	0	1060	430	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	0		1	0	
Taper Length (ft)	60				60	
Link Speed (mph)	30		55			55
Link Distance (ft)	1305		1260			2486
Travel Time (s)	29.7		15.6			30.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1060	0	0	0	0	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2486			1462	745	
Travel Time (s)	30.8			18.1	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	900	340	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2484	1481		1250	
Travel Time (s)		30.8	18.4		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	1490	0	0	0	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	3
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2690	1260		432	
Travel Time (s)		33.3	15.6		5.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

65: NCC SPUI

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	840	300	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2138			2475	1369	
Travel Time (s)	26.5			30.7	31.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	840	0	0	0	0	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	55	
Link Distance (ft)	2475			727	1175	
Travel Time (s)	30.7			16.5	14.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

84: NCC SPUI

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	880	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1306			2501	1150	
Travel Time (s)	29.7			31.0	14.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	880	0	0	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		868	2501		1267	
Travel Time (s)		10.8	31.0		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	900	0	0	0	0	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2484		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1090	0	0	0	0	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	45	
Link Distance (ft)	2052			636	1091	
Travel Time (s)	25.4			14.5	16.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	780	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	780	0	0	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2288	2226		1058	
Travel Time (s)		28.4	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	1040	0	1100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

127: NCC SPUI & NCC

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	950	450	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2261			2293	1098	
Travel Time (s)	28.0			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	950	0	0	0	0	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1090	500	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	30	
Link Distance (ft)	1627			2052	1054	
Travel Time (s)	20.2			46.6	24.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)		29%				
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	860	220	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		2152	1367		1081	
Travel Time (s)		48.9	16.9		24.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	860	0	0	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		1496	2152		457	
Travel Time (s)		34.0	26.7		10.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	180	179	99.4%	25.6	0.0	C
	Through	60	62	103.3%	15.9	0.0	B
	Right Turn	20	24	120.0%	6.0	0.0	A
	Subtotal	**260**	**265**	**101.9%**	**21.6**	**0.0**	**C**
SB	Left Turn	20	17	85.0%	29.0	0.0	C
	Through	120	116	96.7%	27.9	0.0	C
	Right Turn	70	67	95.7%	14.4	0.0	B
	Subtotal	**210**	**200**	**95.2%**	**23.5**	**0.0**	**C**
EB	Left Turn	40	41	102.5%	30.4	0.0	C
	Through	620	621	100.2%	17.5	0.0	B
	Right Turn	120	126	105.0%	6.0	0.0	A
	Subtotal	**780**	**788**	**101.0%**	**16.3**	**0.0**	**B**
WB	Left Turn	70	66	94.3%	33.4	0.0	C
	Through	800	807	100.9%	19.7	0.0	B
	Right Turn	50	51	102.0%	8.3	0.0	A
	Subtotal	**920**	**924**	**100.4%**	**20.0**	**0.0**	**B**
Total		**2,170**	**2,177**	**100.3%**	**19.2**	**0.0**	**B**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	120	117	97.5%	27.7	0.0	C
	Through	70	70	100.0%	18.0	0.0	B
	Right Turn	120	119	99.2%	4.5	0.0	A
	Subtotal	**310**	**306**	**98.7%**	**16.5**	**0.0**	**B**
SB	Left Turn	30	24	80.0%	29.7	0.0	C
	Through	100	104	104.0%	29.5	0.0	C
	Right Turn	50	51	102.0%	13.4	0.0	B
	Subtotal	**180**	**179**	**99.4%**	**24.9**	**0.0**	**C**
EB	Left Turn	30	29	96.7%	35.4	0.0	D
	Through	410	411	100.2%	22.7	0.0	C
	Right Turn	220	223	101.4%	15.5	0.0	B
	Subtotal	**660**	**663**	**100.5%**	**20.8**	**0.0**	**C**
WB	Left Turn	210	203	96.7%	27.5	0.0	C
	Through	750	754	100.5%	13.3	0.0	B
	Right Turn	10	11	110.0%	3.6	0.0	A
	Subtotal	**970**	**968**	**99.8%**	**16.2**	**0.0**	**B**
Total		**2,120**	**2,116**	**99.8%**	**18.4**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	24	120.0%	53.0	0.0	D
	Through	300	289	96.3%	33.1	0.0	C
	Right Turn	10	10	100.0%	21.4	0.0	C
	Subtotal	**330**	**323**	**97.9%**	**34.2**	**0.0**	**C**
SB	Left Turn	70	71	101.4%	57.2	0.0	E
	Through	440	436	99.1%	40.0	0.0	D
	Right Turn	220	224	101.8%	21.9	0.0	C
	Subtotal	**730**	**731**	**100.1%**	**36.1**	**0.0**	**D**
EB	Left Turn	130	123	94.6%	49.4	0.0	D
	Through	220	221	100.5%	21.7	0.0	C
	Right Turn	40	44	110.0%	13.1	0.0	B
	Subtotal	**390**	**388**	**99.5%**	**29.5**	**0.0**	**C**
WB	Left Turn	10	9	90.0%	66.4	0.0	E
	Through	450	446	99.1%	37.2	0.0	D
	Right Turn	130	126	96.9%	13.6	0.0	B
	Subtotal	**590**	**581**	**98.5%**	**32.5**	**0.0**	**C**
Total		**2,040**	**2,023**	**99.2%**	**33.5**	**0.0**	**C**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	320	314	98.1%	7.7	0.0	A
	Right Turn	120	126	105.0%	0.5	0.0	A
	Subtotal	**440**	**440**	**100.0%**	**5.6**	**0.0**	**A**
SB	Left Turn						
	Through	490	492	100.4%	16.0	0.0	B
	Right Turn						
	Subtotal	**490**	**492**	**100.4%**	**16.0**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	210	212	101.0%	16.9	0.0	B
	Through	10	10	100.0%	5.2	0.0	A
	Right Turn						
	Subtotal	**220**	**222**	**100.9%**	**16.4**	**0.0**	**B**
Total		**1,150**	**1,154**	**100.3%**	**12.1**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	120	126	105.0%	4.4	0.0	A
	Subtotal	**120**	**126**	**105.0%**	**4.4**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	290	295	101.7%	14.0	0.0	B
	Right Turn	10	10	100.0%	5.2	0.0	A
	Subtotal	**300**	**305**	**101.7%**	**13.7**	**0.0**	**B**
WB	Left Turn	210	211	100.5%	16.4	0.0	B
	Through	590	579	98.1%	6.7	0.0	A
	Right Turn						
	Subtotal	**800**	**790**	**98.8%**	**9.3**	**0.0**	**A**
Total		**1,220**	**1,221**	**100.1%**	**9.9**	**0.0**	**A**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	90	87	96.7%	44.0	0.0	D
	Through	350	341	97.4%	21.8	0.0	C
	Right Turn	90	88	97.8%	3.6	0.0	A
	Subtotal	**530**	**516**	**97.4%**	**22.4**	**0.0**	**C**
SB	Left Turn	40	40	100.0%	41.9	0.0	D
	Through	500	500	100.0%	26.0	0.0	C
	Right Turn	210	210	100.0%	9.3	0.0	A
	Subtotal	**750**	**750**	**100.0%**	**22.2**	**0.0**	**C**
EB	Left Turn	110	110	100.0%	40.2	0.0	D
	Through	260	254	97.7%	24.5	0.0	C
	Right Turn	110	114	103.6%	8.2	0.0	A
	Subtotal	**480**	**478**	**99.6%**	**24.2**	**0.0**	**C**
WB	Left Turn	230	233	101.3%	38.5	0.0	D
	Through	750	753	100.4%	31.1	0.0	C
	Right Turn	70	69	98.6%	24.5	0.0	C
	Subtotal	**1,050**	**1,055**	**100.5%**	**32.3**	**0.0**	**C**
Total		**2,810**	**2,799**	**99.6%**	**26.4**	**0.0**	**C**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	300	307	102.3%	53.2	0.0	D
	Through	690	685	99.3%	26.8	0.0	C
	Right Turn	80	78	97.5%	6.4	0.0	A
	Subtotal	**1,070**	**1,070**	**100.0%**	**32.9**	**0.0**	**C**
SB	Left Turn	100	97	97.0%	41.5	0.0	D
	Through	560	571	102.0%	27.7	0.0	C
	Right Turn	100	97	97.0%	13.6	0.0	B
	Subtotal	**760**	**765**	**100.7%**	**27.7**	**0.0**	**C**
EB	Left Turn	210	205	97.6%	55.5	0.0	E
	Through	590	599	101.5%	29.5	0.0	C
	Right Turn	180	175	97.2%	6.4	0.0	A
	Subtotal	**980**	**979**	**99.9%**	**30.8**	**0.0**	**C**
WB	Left Turn	140	141	100.7%	52.3	0.0	D
	Through	1,110	1,111	100.1%	42.0	0.0	D
	Right Turn	370	374	101.1%	17.0	0.0	B
	Subtotal	**1,620**	**1,626**	**100.4%**	**37.1**	**0.0**	**D**
Total		**4,430**	**4,440**	**100.2%**	**33.1**	**0.0**	**C**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	120	116	96.7%	27.9	0.0	C
	Through	110	114	103.6%	12.8	0.0	B
	Right Turn	100	105	105.0%	2.0	0.0	A
	Subtotal	**330**	**335**	**101.5%**	**14.6**	**0.0**	**B**
SB	Left Turn	20	19	95.0%	33.9	0.0	C
	Through	270	276	102.2%	23.7	0.0	C
	Right Turn	230	238	103.5%	3.6	0.0	A
	Subtotal	**520**	**533**	**102.5%**	**15.1**	**0.0**	**B**
EB	Left Turn	40	40	100.0%	33.5	0.0	C
	Through	280	269	96.1%	19.6	0.0	B
	Right Turn	120	118	98.3%	3.6	0.0	A
	Subtotal	**440**	**427**	**97.0%**	**16.5**	**0.0**	**B**
WB	Left Turn	90	86	95.6%	29.6	0.0	C
	Through	700	710	101.4%	20.9	0.0	C
	Right Turn	10	10	100.0%	5.7	0.0	A
	Subtotal	**800**	**806**	**100.8%**	**21.6**	**0.0**	**C**
Total		**2,090**	**2,101**	**100.5%**	**17.8**	**0.0**	**B**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	380	372	97.9%	29.9	0.0	C
	Through	210	206	98.1%	14.6	0.0	B
	Right Turn	60	56	93.3%	5.1	0.0	A
	Subtotal	**650**	**634**	**97.5%**	**22.7**	**0.0**	**C**
SB	Left Turn	30	28	93.3%	36.4	0.0	D
	Through	270	272	100.7%	27.8	0.0	C
	Right Turn	270	270	100.0%	9.3	0.0	A
	Subtotal	**570**	**570**	**100.0%**	**19.5**	**0.0**	**B**
EB	Left Turn	100	97	97.0%	36.3	0.0	D
	Through	350	349	99.7%	21.9	0.0	C
	Right Turn	220	215	97.7%	6.4	0.0	A
	Subtotal	**670**	**661**	**98.7%**	**19.0**	**0.0**	**B**
WB	Left Turn	100	100	100.0%	36.1	0.0	D
	Through	940	935	99.5%	31.2	0.0	C
	Right Turn	30	30	100.0%	7.6	0.0	A
	Subtotal	**1,070**	**1,065**	**99.5%**	**31.0**	**0.0**	**C**
Total		**2,960**	**2,930**	**99.0%**	**24.3**	**0.0**	**C**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	120	117	97.5%	44.4	0.0	D
	Through	70	71	101.4%	25.3	0.0	C
	Right Turn	170	173	101.8%	29.4	0.0	C
	Subtotal	**360**	**361**	**100.3%**	**33.5**	**0.0**	**C**
SB	Left Turn	50	50	100.0%	45.2	0.0	D
	Through	110	106	96.4%	33.4	0.0	C
	Right Turn	100	106	106.0%	9.0	0.0	A
	Subtotal	**260**	**262**	**100.8%**	**25.8**	**0.0**	**C**
EB	Left Turn	60	56	93.3%	45.2	0.0	D
	Through	340	336	98.8%	17.4	0.0	B
	Right Turn	60	64	106.7%	9.8	0.0	A
	Subtotal	**460**	**456**	**99.1%**	**19.7**	**0.0**	**B**
WB	Left Turn	240	231	96.3%	43.6	0.0	D
	Through	560	555	99.1%	18.5	0.0	B
	Right Turn	40	41	102.5%	13.8	0.0	B
	Subtotal	**840**	**827**	**98.5%**	**25.3**	**0.0**	**C**
Total		**1,920**	**1,906**	**99.3%**	**25.6**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	51	102.0%	59.1	0.0	E
	Through	300	306	102.0%	28.8	0.0	C
	Right Turn	130	127	97.7%	6.7	0.0	A
	Subtotal	**480**	**484**	**100.8%**	**26.2**	**0.0**	**C**
SB	Left Turn	60	58	96.7%	58.0	0.0	E
	Through	490	490	100.0%	49.7	0.0	D
	Right Turn	170	170	100.0%	7.0	0.0	A
	Subtotal	**720**	**718**	**99.7%**	**40.3**	**0.0**	**D**
EB	Left Turn	100	100	100.0%	43.2	0.0	D
	Through	280	276	98.6%	34.7	0.0	C
	Right Turn	50	49	98.0%	26.9	0.0	C
	Subtotal	**430**	**425**	**98.8%**	**35.8**	**0.0**	**D**
WB	Left Turn	230	230	100.0%	55.8	0.0	E
	Through	470	472	100.4%	30.5	0.0	C
	Right Turn	50	50	100.0%	4.7	0.0	A
	Subtotal	**750**	**752**	**100.3%**	**36.5**	**0.0**	**D**
Total		**2,380**	**2,379**	**100.0%**	**35.4**	**0.0**	**D**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	520	528	101.5%	28.3	0.0	C
	Through	370	366	98.9%	8.9	0.0	A
	Right Turn	20	20	100.0%	2.3	0.0	A
	Subtotal	**910**	**914**	**100.4%**	**20.0**	**0.0**	**B**
SB	Left Turn	10	10	100.0%	37.4	0.0	D
	Through	640	637	99.5%	28.8	0.0	C
	Right Turn	250	253	101.2%	9.6	0.0	A
	Subtotal	**900**	**900**	**100.0%**	**23.5**	**0.0**	**C**
EB	Left Turn	70	75	107.1%	34.0	0.0	C
	Through	170	171	100.6%	21.2	0.0	C
	Right Turn	200	205	102.5%	3.2	0.0	A
	Subtotal	**440**	**451**	**102.5%**	**15.1**	**0.0**	**B**
WB	Left Turn	10	10	100.0%	40.9	0.0	D
	Through	320	314	98.1%	26.9	0.0	C
	Right Turn	10	11	110.0%	3.9	0.0	A
	Subtotal	**340**	**335**	**98.5%**	**26.6**	**0.0**	**C**
Total		**2,590**	**2,600**	**100.4%**	**21.2**	**0.0**	**C**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	51	102.0%	40.1	0.0	D
	Through	190	193	101.6%	47.6	0.0	D
	Right Turn	40	39	97.5%	36.2	0.0	D
	Subtotal	**280**	**283**	**101.1%**	**44.7**	**0.0**	**D**
SB	Left Turn	160	157	98.1%	41.3	0.0	D
	Through	130	132	101.5%	39.8	0.0	D
	Right Turn	150	158	105.3%	18.7	0.0	B
	Subtotal	**440**	**447**	**101.6%**	**32.9**	**0.0**	**C**
EB	Left Turn	120	120	100.0%	63.1	0.0	E
	Through	400	396	99.0%	27.1	0.0	C
	Right Turn	20	19	95.0%	19.3	0.0	B
	Subtotal	**540**	**535**	**99.1%**	**34.9**	**0.0**	**C**
WB	Left Turn	20	20	100.0%	109.9	0.0	F
	Through	490	497	101.4%	73.2	0.0	E
	Right Turn	200	196	98.0%	48.4	0.0	D
	Subtotal	**710**	**713**	**100.4%**	**67.4**	**0.0**	**E**
Total		**1,970**	**1,978**	**100.4%**	**47.6**	**0.0**	**D**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	112	101.8%	69.2	0.0	E
	Through	270	277	102.6%	32.2	0.0	C
	Right Turn	110	110	100.0%	22.7	0.0	C
	Subtotal	**490**	**499**	**101.8%**	**38.4**	**0.0**	**D**
SB	Left Turn	60	59	98.3%	53.2	0.0	D
	Through	340	335	98.5%	35.4	0.0	D
	Right Turn	50	50	100.0%	28.6	0.0	C
	Subtotal	**450**	**444**	**98.7%**	**37.0**	**0.0**	**D**
EB	Left Turn	30	32	106.7%	51.8	0.0	D
	Through	260	260	100.0%	50.2	0.0	D
	Right Turn	150	148	98.7%	37.2	0.0	D
	Subtotal	**440**	**440**	**100.0%**	**45.9**	**0.0**	**D**
WB	Left Turn	150	151	100.7%	56.0	0.0	E
	Through	380	379	99.7%	30.7	0.0	C
	Right Turn	60	65	108.3%	21.5	0.0	C
	Subtotal	**590**	**595**	**100.8%**	**36.1**	**0.0**	**D**
Total		**1,970**	**1,978**	**100.4%**	**39.1**	**0.0**	**D**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	100	100.0%	19.9	0.0	B
	Through						
	Right Turn	180	189	105.0%	8.4	0.0	A
	Subtotal	**280**	**289**	**103.2%**	**12.4**	**0.0**	**B**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	420	416	99.0%	20.2	0.0	C
	Right Turn	140	136	97.1%	9.3	0.0	A
	Subtotal	**560**	**552**	**98.6%**	**17.5**	**0.0**	**B**
WB	Left Turn	240	235	97.9%	25.1	0.0	C
	Through	620	612	98.7%	9.4	0.0	A
	Right Turn						
	Subtotal	**860**	**847**	**98.5%**	**13.8**	**0.0**	**B**
Total		**1,700**	**1,688**	**99.3%**	**14.7**	**0.0**	**B**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	20	18	90.0%	45.0	0.0	D
	Through	320	319	99.7%	27.4	0.0	C
	Right Turn	200	208	104.0%	9.5	0.0	A
	Subtotal	**540**	**545**	**100.9%**	**21.1**	**0.0**	**C**
SB	Left Turn	20	19	95.0%	45.1	0.0	D
	Through	420	422	100.5%	30.2	0.0	C
	Right Turn	90	92	102.2%	6.3	0.0	A
	Subtotal	**530**	**533**	**100.6%**	**26.6**	**0.0**	**C**
EB	Left Turn	70	69	98.6%	39.0	0.0	D
	Through	190	193	101.6%	35.7	0.0	D
	Right Turn	20	17	85.0%	12.4	0.0	B
	Subtotal	**280**	**279**	**99.6%**	**35.1**	**0.0**	**D**
WB	Left Turn	240	240	100.0%	49.8	0.0	D
	Through	320	325	101.6%	36.7	0.0	D
	Right Turn	30	31	103.3%	15.8	0.0	B
	Subtotal	**590**	**596**	**101.0%**	**40.9**	**0.0**	**D**
Total		**1,940**	**1,953**	**100.7%**	**30.7**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	60	56	93.3%	12.0	0.0	B
	Through						
	Right Turn	250	245	98.0%	7.1	0.0	A
	Subtotal	**310**	**301**	**97.1%**	**8.0**	**0.0**	**A**
EB	Left Turn	130	124	95.4%	3.0	0.0	A
	Through	210	212	101.0%	3.8	0.0	A
	Right Turn						
	Subtotal	**340**	**336**	**98.8%**	**3.5**	**0.0**	**A**
WB	Left Turn						
	Through	160	157	98.1%	3.7	0.0	A
	Right Turn	40	43	107.5%	1.3	0.0	A
	Subtotal	**200**	**200**	**100.0%**	**3.2**	**0.0**	**A**
Total		**850**	**837**	**98.5%**	**5.0**	**0.0**	**A**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	20	18	90.0%	8.3	0.0	A
	Through	20	21	105.0%	12.0	0.0	B
	Right Turn	10	12	120.0%	3.8	0.0	A
	Subtotal	**50**	**51**	**102.0%**	**8.8**	**0.0**	**A**
SB	Left Turn	20	19	95.0%	8.1	0.0	A
	Through	30	30	100.0%	12.1	0.0	B
	Right Turn	20	23	115.0%	4.2	0.0	A
	Subtotal	**70**	**72**	**102.9%**	**8.5**	**0.0**	**A**
EB	Left Turn	40	37	92.5%	4.5	0.0	A
	Through	250	258	103.2%	2.6	0.0	A
	Right Turn	10	10	100.0%	1.6	0.0	A
	Subtotal	**300**	**305**	**101.7%**	**2.8**	**0.0**	**A**
WB	Left Turn	20	19	95.0%	2.0	0.0	A
	Through	330	338	102.4%	2.0	0.0	A
	Right Turn	20	20	100.0%	0.8	0.0	A
	Subtotal	**370**	**377**	**101.9%**	**1.9**	**0.0**	**A**
Total		**790**	**805**	**101.9%**	**3.3**	**0.0**	**A**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	90	88	97.8%	28.4	0.0	C
	Through	60	63	105.0%	21.3	0.0	C
	Right Turn	20	21	105.0%	13.4	0.0	B
	Subtotal	**170**	**172**	**101.2%**	**24.0**	**0.0**	**C**
SB	Left Turn	110	108	98.2%	28.5	0.0	C
	Through	60	62	103.3%	21.1	0.0	C
	Right Turn	140	140	100.0%	12.5	0.0	B
	Subtotal	**310**	**310**	**100.0%**	**19.8**	**0.0**	**B**
EB	Left Turn	70	69	98.6%	47.0	0.0	D
	Through	610	617	101.1%	21.4	0.0	C
	Right Turn	50	57	114.0%	11.9	0.0	B
	Subtotal	**730**	**743**	**101.8%**	**23.0**	**0.0**	**C**
WB	Left Turn	40	35	87.5%	38.3	0.0	D
	Through	560	548	97.9%	20.5	0.0	C
	Right Turn	70	75	107.1%	8.6	0.0	A
	Subtotal	**670**	**658**	**98.2%**	**20.1**	**0.0**	**C**
Total		**1,880**	**1,883**	**100.2%**	**21.6**	**0.0**	**C**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	104	104.0%	50.2	0.0	D
	Through	290	291	100.3%	50.8	0.0	D
	Right Turn	180	173	96.1%	12.5	0.0	B
	Subtotal	**570**	**568**	**99.6%**	**39.0**	**0.0**	**D**
SB	Left Turn	350	350	100.0%	73.7	0.0	E
	Through	320	318	99.4%	53.6	0.0	D
	Right Turn	70	70	100.0%	46.0	0.0	D
	Subtotal	**740**	**738**	**99.7%**	**62.4**	**0.0**	**E**
EB	Left Turn	90	90	100.0%	152.0	0.0	F
	Through	480	476	99.2%	70.9	0.0	E
	Right Turn	60	61	101.7%	61.9	0.0	E
	Subtotal	**630**	**627**	**99.5%**	**81.7**	**0.0**	**F**
WB	Left Turn	170	167	98.2%	84.9	0.0	F
	Through	450	460	102.2%	55.4	0.0	E
	Right Turn	350	343	98.0%	10.9	0.0	B
	Subtotal	**970**	**970**	**100.0%**	**44.7**	**0.0**	**D**
Total		**2,910**	**2,903**	**99.8%**	**56.1**	**0.0**	**E**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	260	255	98.1%	35.8	0.0	D
	Through	110	110	100.0%	24.1	0.0	C
	Right Turn	80	80	100.0%	7.4	0.0	A
	Subtotal	**450**	**445**	**98.9%**	**27.8**	**0.0**	**C**
SB	Left Turn	30	31	103.3%	42.5	0.0	D
	Through	150	156	104.0%	30.8	0.0	C
	Right Turn	100	101	101.0%	11.5	0.0	B
	Subtotal	**280**	**288**	**102.9%**	**25.3**	**0.0**	**C**
EB	Left Turn	50	50	100.0%	37.2	0.0	D
	Through	500	491	98.2%	24.2	0.0	C
	Right Turn	170	174	102.4%	16.4	0.0	B
	Subtotal	**720**	**715**	**99.3%**	**23.2**	**0.0**	**C**
WB	Left Turn	150	148	98.7%	39.5	0.0	D
	Through	620	613	98.9%	19.1	0.0	B
	Right Turn	40	40	100.0%	14.1	0.0	B
	Subtotal	**810**	**801**	**98.9%**	**22.6**	**0.0**	**C**
Total		**2,260**	**2,249**	**99.5%**	**24.2**	**0.0**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	63	90.0%	45.3	0.0	D
	Through	580	575	99.1%	27.4	0.0	C
	Right Turn	10	10	100.0%	10.8	0.0	B
	Subtotal	**660**	**648**	**98.2%**	**28.9**	**0.0**	**C**
SB	Left Turn	90	85	94.4%	40.7	0.0	D
	Through	700	703	100.4%	29.5	0.0	C
	Right Turn	100	103	103.0%	17.5	0.0	B
	Subtotal	**890**	**891**	**100.1%**	**29.2**	**0.0**	**C**
EB	Left Turn	130	127	97.7%	43.1	0.0	D
	Through	30	29	96.7%	34.2	0.0	C
	Right Turn	30	34	113.3%	6.8	0.0	A
	Subtotal	**190**	**190**	**100.0%**	**35.2**	**0.0**	**D**
WB	Left Turn	10	8	80.0%	41.0	0.0	D
	Through	120	119	99.2%	31.7	0.0	C
	Right Turn	140	149	106.4%	7.5	0.0	A
	Subtotal	**270**	**276**	**102.2%**	**18.9**	**0.0**	**B**
Total		**2,010**	**2,005**	**99.8%**	**28.2**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	69	98.6%	36.8	0.0	D
	Through	410	403	98.3%	15.3	0.0	B
	Right Turn	30	28	93.3%	5.8	0.0	A
	Subtotal	**510**	**500**	**98.0%**	**17.7**	**0.0**	**B**
SB	Left Turn	10	9	90.0%	39.1	0.0	D
	Through	520	519	99.8%	22.3	0.0	C
	Right Turn	160	163	101.9%	8.4	0.0	A
	Subtotal	**690**	**691**	**100.1%**	**19.2**	**0.0**	**B**
EB	Left Turn	180	178	98.9%	29.2	0.0	C
	Through	40	41	102.5%	23.4	0.0	C
	Right Turn	60	60	100.0%	5.5	0.0	A
	Subtotal	**280**	**279**	**99.6%**	**23.3**	**0.0**	**C**
WB	Left Turn	30	29	96.7%	32.1	0.0	C
	Through	140	138	98.6%	34.6	0.0	C
	Right Turn	10	12	120.0%	16.5	0.0	B
	Subtotal	**180**	**179**	**99.4%**	**33.0**	**0.0**	**C**
Total		**1,660**	**1,649**	**99.3%**	**21.0**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Queue Length | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	97	173	209	0	0
	Through	2,428	30	75	102	0	0
	Right Turn	2,428	30	75	102	0	0
SB	Left Turn	300	15	43	58	0	0
	Through	2,373	84	152	184	0	0
	Right Turn	2,373	84	152	184	0	0
EB	Left Turn	530	33	75	92	0	0
	Through	3,295	90	166	199	0	0
	Right Turn	410	39	76	101	0	0
WB	Left Turn	580	51	99	123	0	0
	Through	2,554	112	202	248	0	0
	Right Turn	530	19	50	66	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	69	130	153	0	0
	Through	3,683	33	73	95	0	0
	Right Turn	400	31	64	89	0	0
SB	Left Turn	300	19	52	78	0	0
	Through	3,958	73	138	165	0	0
	Right Turn	3,958	73	138	165	0	0
EB	Left Turn	715	25	61	77	0	0
	Through	2,554	68	126	156	0	0
	Right Turn	355	73	136	163	0	0
WB	Left Turn	660	110	190	225	0	0
	Through	3,622	81	160	192	0	0
	Right Turn	415	2	14	30	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	25	65	87	0	0
	Through	464	97	167	207	1	0
	Right Turn	464	89	152	170	0	0
SB	Left Turn	290	68	158	234	0	0
	Through	5,159	203	335	400	3	0
	Right Turn	800	170	309	379	0	0
EB	Left Turn	250	103	188	235	0	0
	Through	5,459	103	200	264	1	0
	Right Turn	5,459	103	200	264	1	0
WB	Left Turn	90	16	69	**149**	0	0
	Through	491	298	485	485	43	2
	Right Turn	160	101	**247**	**220**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Queue Length | **AM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	69	137	177	0	0
	Right Turn						
SB	Left Turn						
	Through	464	153	325	353	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	94	161	186	0	0
	Through						
	Right Turn	672	94	161	186	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	26	59	79	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	105	212	276	0	0
	Right Turn	491	105	212	276	0	0
WB	Left Turn	530	82	144	172	0	0
	Through	3,699	19	122	196	0	0
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	48	98	117	0	0
	Through	737	52	96	118	0	0
	Right Turn	737	20	54	69	0	0
SB	Left Turn	550	25	66	92	0	0
	Through	1,039	77	143	175	0	0
	Right Turn	650	56	109	148	0	0
EB	Left Turn	300	16	45	60	0	0
	Through						
	Right Turn	1,092	57	111	130	0	0
WB	Left Turn	300	55	98	114	0	0
	Through						
	Right Turn	1,084	104	187	238	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Queue Length | **AM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	137	222	**255**	1	0
	Through	3,853	129	205	234	0	0
	Right Turn	200	27	60	74	0	0
SB	Left Turn	500	64	118	144	0	0
	Through	1,768	154	229	256	0	0
	Right Turn	1,768	91	176	207	0	0
EB	Left Turn	350	92	149	176	0	0
	Through	4,930	110	170	193	0	0
	Right Turn	350	50	86	104	0	0
WB	Left Turn	300	176	189	277	0	0
	Through	4,656	242	392	438	4	0
	Right Turn	350	162	306	330	0	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	650	102	176	205	0	0
	Through	918	18	52	77	0	0
	Right Turn	650	15	42	55	0	0
SB	Left Turn	650	15	44	62	0	0
	Through	952	54	100	122	0	0
	Right Turn	650	63	115	144	0	0
EB	Left Turn	500	14	41	58	0	0
	Through						
	Right Turn	860	26	70	104	0	0
WB	Left Turn	880	74	121	138	0	0
	Through						
	Right Turn	880	18	52	67	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	147	225	255	0	0
	Through	1,262	49	100	125	0	0
	Right Turn	1,262	39	84	111	0	0
SB	Left Turn	300	25	60	76	0	0
	Through	1,270	106	170	188	0	0
	Right Turn	300	75	130	169	0	0
EB	Left Turn	300	53	99	116	0	0
	Through	1,407	98	168	201	0	0
	Right Turn	300	37	77	101	0	0
WB	Left Turn	300	70	129	155	0	0
	Through	1,696	223	317	377	1	0
	Right Turn	1,696	79	183	213	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Queue Length | **AM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	90	160	187	0	0
	Through	2,570	46	104	132	0	0
	Right Turn	2,570	110	192	229	0	0
SB	Left Turn	150	48	102	143	0	0
	Through	2,170	85	173	232	13	0
	Right Turn	75	54	**111**	**135**	1	0
EB	Left Turn	525	51	108	132	0	0
	Through	2,722	77	135	161	0	0
	Right Turn	2,722	81	155	201	0	0
WB	Left Turn	625	93	151	175	0	0
	Through	3,225	89	162	199	0	0
	Right Turn	675	115	209	241	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	170	59	139	**195**	0	0
	Through	1,553	159	280	374	7	0
	Right Turn	240	51	137	**255**	0	0
SB	Left Turn	3,994	54	163	184	0	0
	Through	3,994	332	685	706	13	0
	Right Turn	310	179	308	**332**	3	0
EB	Left Turn	410	78	148	175	0	0
	Through	2,526	104	177	200	0	0
	Right Turn	2,526	81	150	173	0	0
WB	Left Turn	1,889	142	285	334	0	0
	Through	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	170	251	291	0	0
	Through	2,052	69	123	141	0	0
	Right Turn	2,052	39	94	124	0	0
SB	Left Turn	300	9	30	42	0	0
	Through	2,174	149	226	261	0	0
	Right Turn	300	57	104	134	0	0
EB	Left Turn	1,330	40	83	107	0	0
	Through	1,330	54	101	129	0	0
	Right Turn						
WB	Left Turn	300	12	41	54	0	0
	Through	1,803	90	137	150	0	0
	Right Turn	300	8	34	60	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Queue Length | **AM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	53	140	216	0	0
	Through	1,227	197	350	418	5	0
	Right Turn	1,227	197	350	418	5	0
SB	Left Turn	175	136	**239**	**234**	6	0
	Through	1,683	154	317	386	15	0
	Right Turn	100	98	**177**	**160**	6	0
EB	Left Turn	775	106	199	228	0	0
	Through	3,224	202	368	460	0	0
	Right Turn	3,224	202	368	460	0	0
WB	Left Turn	75	30	**90**	**130**	1	0
	Through	3,310	572	1185	1104	54	0
	Right Turn	150	150	**272**	**210**	1	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	111	225	258	1	0
	Through	2,313	197	343	395	2	0
	Right Turn	2,313	197	343	395	2	0
SB	Left Turn	300	65	168	295	0	0
	Through	2,478	214	366	437	3	0
	Right Turn	2,478	214	366	437	3	0
EB	Left Turn	300	44	157	257	0	0
	Through	2,408	260	464	531	9	0
	Right Turn	2,408	260	464	531	9	0
WB	Left Turn	300	138	264	**320**	0	0
	Through	2,612	209	384	447	3	0
	Right Turn	2,612	209	384	447	3	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,574	45	87	101	0	0
	Through						
	Right Turn	150	47	91	119	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	1,820	166	292	352	20	0
	Right Turn	100	72	**163**	**160**	0	0
WB	Left Turn	200	116	195	**218**	1	0
	Through	1,989	96	190	259	0	0
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Queue Length | **AM Peak Hour**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	19	54	80	0	0
	Through	2,156	157	296	389	8	0
	Right Turn	150	74	**176**	**210**	0	0
SB	Left Turn	250	20	78	130	0	0
	Through	2,402	207	363	453	6	0
	Right Turn	2,402	28	67	84	0	0
EB	Left Turn	150	56	124	**162**	0	0
	Through	2,148	118	217	266	24	0
	Right Turn	75	13	61	**134**	0	0
WB	Left Turn	150	**162**	**237**	**210**	17	0
	Through	2,759	239	505	589	30	0
	Right Turn	75	24	**88**	**135**	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn	1,916	70	126	154	0	0
	Through						
	Right Turn	1,916	70	126	154	0	0
EB	Left Turn	2,004	27	80	101	0	0
	Through	2,004	27	80	101	0	0
	Right Turn						
WB	Left Turn						
	Through	5,377	0	4	7	0	0
	Right Turn	5,377	0	4	7	0	0

Intersection 18 **Bentley Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,498	29	65	88	6	0
	Through	1,498	29	65	88	6	0
	Right Turn	20	12	**41**	**55**	1	0
SB	Left Turn	1,216	30	63	77	7	0
	Through	1,216	30	63	77	7	0
	Right Turn	20	20	**51**	**62**	2	0
EB	Left Turn	2,720	15	55	86	0	0
	Through	2,720	15	55	86	0	0
	Right Turn	2,720	15	55	86	0	0
WB	Left Turn	2,487	5	24	45	0	0
	Through	2,487	5	24	45	0	0
	Right Turn	2,487	5	24	45	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Queue Length | **AM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	55	107	128	0	0
	Through	1,261	43	93	120	0	0
	Right Turn	1,261	43	93	120	0	0
SB	Left Turn	100	58	**108**	**136**	3	0
	Through	1,636	34	88	131	2	0
	Right Turn	75	49	**96**	**118**	2	0
EB	Left Turn	250	66	173	**276**	0	0
	Through	4,913	32	139	238	0	0
	Right Turn	4,913	209	397	524	7	0
WB	Left Turn	250	39	127	239	0	0
	Through	2,604	40	152	259	0	0
	Right Turn	2,604	246	446	548	10	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	175	277	314	0	0
	Through	1,934	182	288	340	1	0
	Right Turn	300	89	194	265	0	0
SB	Left Turn	5,862	404	726	775	0	0
	Through	5,862	404	726	775	0	0
	Right Turn	5,862	286	552	675	0	0
EB	Left Turn	50	**92**	**135**	**110**	66	0
	Through	2,750	513	1201	1232	39	0
	Right Turn	200	**228**	**307**	**260**	16	0
WB	Left Turn	300	234	**416**	**360**	3	0
	Through	2,507	434	837	946	19	0
	Right Turn	2,507	107	276	441	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	95	150	170	0	0
	Through	1,873	65	134	193	16	0
	Right Turn	50	39	**87**	**107**	1	0
SB	Left Turn	100	30	75	**105**	0	0
	Through	2,914	94	179	228	10	0
	Right Turn	100	53	**111**	**149**	0	0
EB	Left Turn	250	34	74	95	0	0
	Through	1,972	146	251	314	1	0
	Right Turn	1,972	150	261	315	0	0
WB	Left Turn	200	88	169	**216**	1	0
	Through	2,690	122	215	256	1	0
	Right Turn	2,690	142	233	271	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Queue Length | **AM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	55	118	149	0	0
	Through	1,498	180	277	303	0	0
	Right Turn	300	134	251	274	0	0
SB	Left Turn	400	69	139	167	0	0
	Through	1,981	200	339	440	1	0
	Right Turn	300	171	300	**340**	1	0
EB	Left Turn	225	109	197	**230**	1	0
	Through	5,561	28	78	113	0	0
	Right Turn	225	23	68	95	0	0
WB	Left Turn	225	10	37	54	0	0
	Through	2,237	81	160	193	0	0
	Right Turn	225	55	105	132	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	55	112	131	0	0
	Through	1,326	96	174	210	0	0
	Right Turn	1,326	64	142	181	0	0
SB	Left Turn	350	12	46	64	0	0
	Through	1,404	147	238	274	0	0
	Right Turn	350	52	95	122	0	0
EB	Left Turn	225	99	169	186	0	0
	Through	1,997	21	56	83	0	0
	Right Turn	225	21	53	76	0	0
WB	Left Turn	175	27	66	82	0	0
	Through	2,609	97	167	203	1	0
	Right Turn	2,609	97	167	203	1	0

Intersection 101 **SR 219 (Kiernan Ave)#1** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	22	55	66	0	0
	Through	1,357	42	88	108	0	0
	Right Turn	700	66	115	140	0	0
SB	Left Turn	600	16	44	59	0	0
	Through	1,181	57	110	135	0	0
	Right Turn	600	62	109	137	0	0
EB	Left Turn	500	26	62	78	0	0
	Through						
	Right Turn	500	26	68	91	0	0
WB	Left Turn	500	45	81	94	0	0
	Through						
	Right Turn	350	26	69	91	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Queue Length | **AM Peak Hour**

Intersection 103 **Claribel Rd** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	60	116	144	0	0
	Through	671	31	77	113	0	0
	Right Turn	400	19	55	86	0	0
SB	Left Turn	550	22	60	85	0	0
	Through	1,058	46	91	114	0	0
	Right Turn	550	4	22	51	0	0
EB	Left Turn	500	3	16	31	0	0
	Through						
	Right Turn	1,221	51	99	118	0	0
WB	Left Turn	1,142	47	82	99	0	0
	Through						
	Right Turn	1,142	26	64	85	0	0

Intersection 109 **Claribel Rd** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	230	9	37	65	0	0
SB	Left Turn						
	Through						
	Right Turn	264	30	74	96	0	0
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn						
	Through						
	Right Turn						

Intersection 0 **0** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	Not Analyzed with SimTraffic					
	Through						
	Right Turn						
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn						
	Through						
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	76	95.0%	24.3	0.0	C
	Through	90	86	95.6%	20.4	0.0	C
	Right Turn	80	83	103.8%	9.1	0.0	A
	Subtotal	**250**	**245**	**98.0%**	**17.8**	**0.0**	**B**
SB	Left Turn	50	49	98.0%	27.2	0.0	C
	Through	80	80	100.0%	21.2	0.0	C
	Right Turn	20	23	115.0%	8.8	0.0	A
	Subtotal	**150**	**152**	**101.3%**	**21.3**	**0.0**	**C**
EB	Left Turn	40	39	97.5%	26.8	0.0	C
	Through	950	936	98.5%	11.9	0.0	B
	Right Turn	150	148	98.7%	4.7	0.0	A
	Subtotal	**1,140**	**1,123**	**98.5%**	**11.5**	**0.0**	**B**
WB	Left Turn	40	37	92.5%	30.1	0.0	C
	Through	900	901	100.1%	16.0	0.0	B
	Right Turn	30	29	96.7%	8.3	0.0	A
	Subtotal	**970**	**967**	**99.7%**	**16.3**	**0.0**	**B**
Total		**2,510**	**2,487**	**99.1%**	**14.6**	**0.0**	**B**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	270	267	98.9%	35.9	0.0	D
	Through	160	162	101.3%	22.5	0.0	C
	Right Turn	180	189	105.0%	8.6	0.0	A
	Subtotal	**610**	**618**	**101.3%**	**24.0**	**0.0**	**C**
SB	Left Turn	60	58	96.7%	37.4	0.0	D
	Through	140	140	100.0%	33.5	0.0	C
	Right Turn	20	22	110.0%	21.2	0.0	C
	Subtotal	**220**	**220**	**100.0%**	**33.3**	**0.0**	**C**
EB	Left Turn	50	47	94.0%	41.9	0.0	D
	Through	830	826	99.5%	33.5	0.0	C
	Right Turn	200	197	98.5%	15.0	0.0	B
	Subtotal	**1,080**	**1,070**	**99.1%**	**30.5**	**0.0**	**C**
WB	Left Turn	220	214	97.3%	37.8	0.0	D
	Through	680	682	100.3%	17.6	0.0	B
	Right Turn	30	30	100.0%	5.2	0.0	A
	Subtotal	**930**	**926**	**99.6%**	**21.9**	**0.0**	**C**
Total		**2,840**	**2,834**	**99.8%**	**26.5**	**0.0**	**C**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	40	40	100.0%	52.9	0.0	D
	Through	450	458	101.8%	37.0	0.0	D
	Right Turn	10	12	120.0%	31.2	0.0	C
	Subtotal	**500**	**510**	**102.0%**	**38.1**	**0.0**	**D**
SB	Left Turn	200	199	99.5%	70.8	0.0	E
	Through	450	457	101.6%	34.8	0.0	C
	Right Turn	190	192	101.1%	19.0	0.0	B
	Subtotal	**840**	**848**	**101.0%**	**39.7**	**0.0**	**D**
EB	Left Turn	190	189	99.5%	67.8	0.0	E
	Through	330	332	100.6%	31.2	0.0	C
	Right Turn	20	22	110.0%	22.9	0.0	C
	Subtotal	**540**	**543**	**100.6%**	**43.6**	**0.0**	**D**
WB	Left Turn	10	10	100.0%	59.3	0.0	E
	Through	340	337	99.1%	41.1	0.0	D
	Right Turn	110	108	98.2%	12.6	0.0	B
	Subtotal	**460**	**455**	**98.9%**	**34.7**	**0.0**	**C**
Total		**2,340**	**2,356**	**100.7%**	**39.3**	**0.0**	**D**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	490	498	101.6%	9.1	0.0	A
	Right Turn	340	344	101.2%	1.5	0.0	A
	Subtotal	**830**	**842**	**101.4%**	**6.0**	**0.0**	**A**
SB	Left Turn						
	Through	480	489	101.9%	13.7	0.0	B
	Right Turn						
	Subtotal	**480**	**489**	**101.9%**	**13.7**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	130	126	96.9%	14.1	0.0	B
	Through	10	10	100.0%	4.6	0.0	A
	Right Turn						
	Subtotal	**140**	**136**	**97.1%**	**13.4**	**0.0**	**B**
Total		**1,450**	**1,467**	**101.2%**	**9.2**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	340	344	101.2%	9.8	0.0	A
	Subtotal	**340**	**344**	**101.2%**	**9.8**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	530	535	100.9%	20.2	0.0	C
	Right Turn	10	9	90.0%	10.7	0.0	B
	Subtotal	**540**	**544**	**100.7%**	**20.0**	**0.0**	**B**
WB	Left Turn	130	127	97.7%	24.3	0.0	C
	Through	460	453	98.5%	5.7	0.0	A
	Right Turn						
	Subtotal	**590**	**580**	**98.3%**	**9.8**	**0.0**	**A**
Total		**1,470**	**1,468**	**99.9%**	**13.6**	**0.0**	**B**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	180	178	98.9%	75.4	0.0	E
	Through	660	661	100.2%	23.8	0.0	C
	Right Turn	310	304	98.1%	8.4	0.0	A
	Subtotal	**1,150**	**1,143**	**99.4%**	**27.7**	**0.0**	**C**
SB	Left Turn	40	39	97.5%	43.4	0.0	D
	Through	450	439	97.6%	27.4	0.0	C
	Right Turn	190	194	102.1%	7.1	0.0	A
	Subtotal	**680**	**672**	**98.8%**	**22.5**	**0.0**	**C**
EB	Left Turn	260	259	99.6%	51.5	0.0	D
	Through	580	576	99.3%	26.2	0.0	C
	Right Turn	340	350	102.9%	13.5	0.0	B
	Subtotal	**1,180**	**1,185**	**100.4%**	**28.0**	**0.0**	**C**
WB	Left Turn	170	170	100.0%	43.8	0.0	D
	Through	520	514	98.8%	30.3	0.0	C
	Right Turn	50	49	98.0%	21.5	0.0	C
	Subtotal	**740**	**733**	**99.1%**	**32.8**	**0.0**	**C**
Total		**3,750**	**3,733**	**99.5%**	**27.9**	**0.0**	**C**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	330	335	101.5%	63.1	0.0	E
	Through	860	870	101.2%	37.9	0.0	D
	Right Turn	140	140	100.0%	14.7	0.0	B
	Subtotal	**1,330**	**1,345**	**101.1%**	**41.8**	**0.0**	**D**
SB	Left Turn	460	463	100.7%	48.1	0.0	D
	Through	1,160	1,179	101.6%	33.3	0.0	C
	Right Turn	170	171	100.6%	27.4	0.0	C
	Subtotal	**1,790**	**1,813**	**101.3%**	**36.5**	**0.0**	**D**
EB	Left Turn	230	231	100.4%	80.6	0.0	F
	Through	1,250	1,248	99.8%	95.3	0.0	F
	Right Turn	280	277	98.9%	39.0	0.0	D
	Subtotal	**1,760**	**1,756**	**99.8%**	**84.5**	**0.0**	**F**
WB	Left Turn	150	149	99.3%	105.1	0.0	F
	Through	740	737	99.6%	41.6	0.0	D
	Right Turn	250	249	99.6%	9.2	0.0	A
	Subtotal	**1,140**	**1,135**	**99.6%**	**42.8**	**0.0**	**D**
Total		**6,020**	**6,049**	**100.5%**	**52.8**	**0.0**	**D**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	74	92.5%	26.7	0.0	C
	Through	310	313	101.0%	18.6	0.0	B
	Right Turn	270	268	99.3%	3.4	0.0	A
	Subtotal	**660**	**655**	**99.2%**	**13.3**	**0.0**	**B**
SB	Left Turn	20	16	80.0%	29.8	0.0	C
	Through	170	176	103.5%	20.8	0.0	C
	Right Turn	120	116	96.7%	2.4	0.0	A
	Subtotal	**310**	**308**	**99.4%**	**14.3**	**0.0**	**B**
EB	Left Turn	130	133	102.3%	28.0	0.0	C
	Through	550	544	98.9%	20.0	0.0	B
	Right Turn	170	162	95.3%	5.3	0.0	A
	Subtotal	**850**	**839**	**98.7%**	**18.4**	**0.0**	**B**
WB	Left Turn	110	107	97.3%	30.1	0.0	C
	Through	530	530	100.0%	20.3	0.0	C
	Right Turn	10	10	100.0%	4.7	0.0	A
	Subtotal	**650**	**647**	**99.5%**	**21.7**	**0.0**	**C**
Total		**2,470**	**2,449**	**99.1%**	**17.4**	**0.0**	**B**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	290	296	102.1%	32.8	0.0	C
	Through	420	416	99.0%	23.3	0.0	C
	Right Turn	140	139	99.3%	12.3	0.0	B
	Subtotal	**850**	**851**	**100.1%**	**24.8**	**0.0**	**C**
SB	Left Turn	100	97	97.0%	34.1	0.0	C
	Through	210	207	98.6%	26.1	0.0	C
	Right Turn	200	200	100.0%	6.7	0.0	A
	Subtotal	**510**	**504**	**98.8%**	**19.9**	**0.0**	**B**
EB	Left Turn	360	363	100.8%	37.1	0.0	D
	Through	990	995	100.5%	24.4	0.0	C
	Right Turn	400	411	102.8%	7.4	0.0	A
	Subtotal	**1,750**	**1,769**	**101.1%**	**23.1**	**0.0**	**C**
WB	Left Turn	80	78	97.5%	34.8	0.0	C
	Through	620	630	101.6%	32.7	0.0	C
	Right Turn	40	38	95.0%	9.0	0.0	A
	Subtotal	**740**	**746**	**100.8%**	**31.7**	**0.0**	**C**
Total		**3,850**	**3,870**	**100.5%**	**24.7**	**0.0**	**C**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	140	140	100.0%	51.3	0.0	D
	Through	130	133	102.3%	30.7	0.0	C
	Right Turn	250	251	100.4%	36.7	0.0	D
	Subtotal	**520**	**524**	**100.8%**	**39.1**	**0.0**	**D**
SB	Left Turn	50	49	98.0%	53.5	0.0	D
	Through	110	115	104.5%	36.7	0.0	D
	Right Turn	60	59	98.3%	7.3	0.0	A
	Subtotal	**220**	**223**	**101.4%**	**32.6**	**0.0**	**C**
EB	Left Turn	90	90	100.0%	45.6	0.0	D
	Through	620	622	100.3%	27.2	0.0	C
	Right Turn	130	134	103.1%	21.6	0.0	C
	Subtotal	**840**	**846**	**100.7%**	**28.3**	**0.0**	**C**
WB	Left Turn	400	401	100.3%	45.8	0.0	D
	Through	380	385	101.3%	20.1	0.0	C
	Right Turn	30	30	100.0%	14.9	0.0	B
	Subtotal	**810**	**816**	**100.7%**	**32.5**	**0.0**	**C**
Total		**2,390**	**2,409**	**100.8%**	**32.5**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	60	59	98.3%	71.3	0.0	E
	Through	480	476	99.2%	53.3	0.0	D
	Right Turn	290	292	100.7%	24.1	0.0	C
	Subtotal	**830**	**827**	**99.6%**	**44.3**	**0.0**	**D**
SB	Left Turn	60	57	95.0%	53.8	0.0	D
	Through	430	430	100.0%	40.8	0.0	D
	Right Turn	170	168	98.8%	6.4	0.0	A
	Subtotal	**660**	**655**	**99.2%**	**33.1**	**0.0**	**C**
EB	Left Turn	250	238	95.2%	75.9	0.0	E
	Through	440	455	103.4%	35.2	0.0	D
	Right Turn	70	70	100.0%	27.4	0.0	C
	Subtotal	**760**	**763**	**100.4%**	**47.2**	**0.0**	**D**
WB	Left Turn	240	239	99.6%	72.9	0.0	E
	Through	390	391	100.3%	31.7	0.0	C
	Right Turn	60	61	101.7%	4.3	0.0	A
	Subtotal	**690**	**691**	**100.1%**	**43.5**	**0.0**	**D**
Total		**2,940**	**2,936**	**99.9%**	**42.4**	**0.0**	**D**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	340	338	99.4%	33.2	0.0	C
	Through	750	740	98.7%	16.9	0.0	B
	Right Turn	40	40	100.0%	10.0	0.0	A
	Subtotal	**1,130**	**1,118**	**98.9%**	**21.6**	**0.0**	**C**
SB	Left Turn	30	31	103.3%	43.4	0.0	D
	Through	600	600	100.0%	26.8	0.0	C
	Right Turn	120	121	100.8%	6.8	0.0	A
	Subtotal	**750**	**752**	**100.3%**	**24.3**	**0.0**	**C**
EB	Left Turn	150	144	96.0%	34.5	0.0	C
	Through	440	435	98.9%	23.0	0.0	C
	Right Turn	610	595	97.5%	4.7	0.0	A
	Subtotal	**1,200**	**1,174**	**97.8%**	**15.1**	**0.0**	**B**
WB	Left Turn	20	19	95.0%	37.2	0.0	D
	Through	290	297	102.4%	27.5	0.0	C
	Right Turn	20	22	110.0%	6.8	0.0	A
	Subtotal	**330**	**338**	**102.4%**	**26.7**	**0.0**	**C**
Total		**3,410**	**3,382**	**99.2%**	**20.5**	**0.0**	**C**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	60	60	100.0%	38.7	0.0	D
	Through	220	220	100.0%	48.0	0.0	D
	Right Turn	30	34	113.3%	39.9	0.0	D
	Subtotal	**310**	**314**	**101.3%**	**45.3**	**0.0**	**D**
SB	Left Turn	240	232	96.7%	52.8	0.0	D
	Through	180	184	102.2%	49.7	0.0	D
	Right Turn	170	172	101.2%	23.3	0.0	C
	Subtotal	**590**	**588**	**99.7%**	**43.2**	**0.0**	**D**
EB	Left Turn	240	238	99.2%	71.0	0.0	E
	Through	550	547	99.5%	44.7	0.0	D
	Right Turn	30	31	103.3%	36.9	0.0	D
	Subtotal	**820**	**816**	**99.5%**	**52.1**	**0.0**	**D**
WB	Left Turn	30	29	96.7%	112.9	0.0	F
	Through	410	405	98.8%	85.3	0.0	F
	Right Turn	120	116	96.7%	54.8	0.0	D
	Subtotal	**560**	**550**	**98.2%**	**80.3**	**0.0**	**F**
Total		**2,280**	**2,268**	**99.5%**	**55.7**	**0.0**	**E**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	190	189	99.5%	127.0	0.0	F
	Through	370	365	98.6%	96.5	0.0	F
	Right Turn	160	158	98.8%	87.6	0.0	F
	Subtotal	**720**	**712**	**98.9%**	**102.6**	**0.0**	**F**
SB	Left Turn	50	47	94.0%	72.8	0.0	E
	Through	270	275	101.9%	50.0	0.0	D
	Right Turn	60	61	101.7%	40.0	0.0	D
	Subtotal	**380**	**383**	**100.8%**	**51.2**	**0.0**	**D**
EB	Left Turn	70	67	95.7%	133.0	0.0	F
	Through	370	358	96.8%	136.4	0.0	F
	Right Turn	170	162	95.3%	132.2	0.0	F
	Subtotal	**610**	**587**	**96.2%**	**134.9**	**0.0**	**F**
WB	Left Turn	130	130	100.0%	103.1	0.0	F
	Through	360	362	100.6%	39.7	0.0	D
	Right Turn	70	72	102.9%	33.1	0.0	C
	Subtotal	**560**	**564**	**100.7%**	**53.5**	**0.0**	**D**
Total		**2,270**	**2,246**	**98.9%**	**89.9**	**0.0**	**F**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	105	95.5%	29.3	0.0	C
	Through						
	Right Turn	220	222	100.9%	15.4	0.0	B
	Subtotal	**330**	**327**	**99.1%**	**19.9**	**0.0**	**B**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	610	614	100.7%	25.5	0.0	C
	Right Turn	170	177	104.1%	15.0	0.0	B
	Subtotal	**780**	**791**	**101.4%**	**23.2**	**0.0**	**C**
WB	Left Turn	220	213	96.8%	34.0	0.0	C
	Through	450	452	100.4%	7.4	0.0	A
	Right Turn						
	Subtotal	**670**	**665**	**99.3%**	**15.9**	**0.0**	**B**
Total		**1,780**	**1,783**	**100.2%**	**19.9**	**0.0**	**B**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	29	96.7%	55.3	0.0	E
	Through	420	419	99.8%	49.7	0.0	D
	Right Turn	300	289	96.3%	24.8	0.0	C
	Subtotal	**750**	**737**	**98.3%**	**40.2**	**0.0**	**D**
SB	Left Turn	30	30	100.0%	50.9	0.0	D
	Through	410	418	102.0%	36.6	0.0	D
	Right Turn	130	129	99.2%	4.6	0.0	A
	Subtotal	**570**	**577**	**101.2%**	**30.2**	**0.0**	**C**
EB	Left Turn	120	116	96.7%	40.9	0.0	D
	Through	230	235	102.2%	40.3	0.0	D
	Right Turn	40	42	105.0%	16.1	0.0	B
	Subtotal	**390**	**393**	**100.8%**	**37.9**	**0.0**	**D**
WB	Left Turn	280	274	97.9%	50.9	0.0	D
	Through	200	194	97.0%	39.0	0.0	D
	Right Turn	30	32	106.7%	18.2	0.0	B
	Subtotal	**510**	**500**	**98.0%**	**44.2**	**0.0**	**D**
Total		**2,220**	**2,207**	**99.4%**	**38.1**	**0.0**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	60	59	98.3%	44.3	0.0	D
	Through						
	Right Turn	250	247	98.8%	29.0	0.0	C
	Subtotal	**310**	**306**	**98.7%**	**32.0**	**0.0**	**C**
EB	Left Turn	340	335	98.5%	8.2	0.0	A
	Through	200	191	95.5%	10.3	0.0	B
	Right Turn						
	Subtotal	**540**	**526**	**97.4%**	**9.0**	**0.0**	**A**
WB	Left Turn						
	Through	230	239	103.9%	5.6	0.0	A
	Right Turn	70	71	101.4%	2.4	0.0	A
	Subtotal	**300**	**310**	**103.3%**	**4.9**	**0.0**	**A**
Total		**1,150**	**1,142**	**99.3%**	**14.0**	**0.0**	**B**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	10	100.0%	8.4	0.0	A
	Through	30	30	100.0%	11.6	0.0	B
	Right Turn	10	12	120.0%	4.2	0.0	A
	Subtotal	**50**	**52**	**104.0%**	**9.3**	**0.0**	**A**
SB	Left Turn	30	30	100.0%	10.1	0.0	B
	Through	40	39	97.5%	13.0	0.0	B
	Right Turn	90	83	92.2%	5.1	0.0	A
	Subtotal	**160**	**152**	**95.0%**	**8.1**	**0.0**	**A**
EB	Left Turn	30	29	96.7%	2.2	0.0	A
	Through	330	324	98.2%	2.4	0.0	A
	Right Turn	20	26	130.0%	1.2	0.0	A
	Subtotal	**380**	**379**	**99.7%**	**2.3**	**0.0**	**A**
WB	Left Turn	20	19	95.0%	2.3	0.0	A
	Through	270	270	100.0%	2.4	0.0	A
	Right Turn	30	29	96.7%	0.7	0.0	A
	Subtotal	**320**	**318**	**99.4%**	**2.2**	**0.0**	**A**
Total		**910**	**901**	**99.0%**	**3.7**	**0.0**	**A**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	90	96	106.7%	30.4	0.0	C
	Through	50	51	102.0%	25.7	0.0	C
	Right Turn	60	61	101.7%	17.5	0.0	B
	Subtotal	**200**	**208**	**104.0%**	**25.5**	**0.0**	**C**
SB	Left Turn	90	95	105.6%	32.8	0.0	C
	Through	40	40	100.0%	25.3	0.0	C
	Right Turn	110	116	105.5%	13.4	0.0	B
	Subtotal	**240**	**251**	**104.6%**	**22.6**	**0.0**	**C**
EB	Left Turn	90	88	97.8%	50.3	0.0	D
	Through	750	746	99.5%	24.8	0.0	C
	Right Turn	40	39	97.5%	15.1	0.0	B
	Subtotal	**880**	**873**	**99.2%**	**26.9**	**0.0**	**C**
WB	Left Turn	30	29	96.7%	42.6	0.0	D
	Through	640	635	99.2%	23.0	0.0	C
	Right Turn	70	70	100.0%	10.3	0.0	B
	Subtotal	**740**	**734**	**99.2%**	**22.6**	**0.0**	**C**
Total		**2,060**	**2,066**	**100.3%**	**24.7**	**0.0**	**C**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	99	99.0%	58.8	0.0	E
	Through	370	373	100.8%	59.0	0.0	E
	Right Turn	200	195	97.5%	14.8	0.0	B
	Subtotal	**670**	**667**	**99.6%**	**46.0**	**0.0**	**D**
SB	Left Turn	360	364	101.1%	83.1	0.0	F
	Through	360	362	100.6%	58.0	0.0	E
	Right Turn	70	68	97.1%	50.6	0.0	D
	Subtotal	**790**	**794**	**100.5%**	**68.9**	**0.0**	**E**
EB	Left Turn	100	93	93.0%	203.4	0.0	F
	Through	640	622	97.2%	127.8	0.0	F
	Right Turn	70	66	94.3%	120.9	0.0	F
	Subtotal	**810**	**781**	**96.4%**	**136.2**	**0.0**	**F**
WB	Left Turn	140	138	98.6%	86.8	0.0	F
	Through	520	523	100.6%	65.6	0.0	E
	Right Turn	410	412	100.5%	14.7	0.0	B
	Subtotal	**1,070**	**1,073**	**100.3%**	**48.8**	**0.0**	**D**
Total		**3,340**	**3,315**	**99.3%**	**73.6**	**0.0**	**E**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	170	171	100.6%	40.9	0.0	D
	Through	170	171	100.6%	27.2	0.0	C
	Right Turn	170	170	100.0%	10.7	0.0	B
	Subtotal	**510**	**512**	**100.4%**	**26.3**	**0.0**	**C**
SB	Left Turn	50	48	96.0%	44.2	0.0	D
	Through	120	119	99.2%	31.9	0.0	C
	Right Turn	100	100	100.0%	11.9	0.0	B
	Subtotal	**270**	**267**	**98.9%**	**26.6**	**0.0**	**C**
EB	Left Turn	110	112	101.8%	43.1	0.0	D
	Through	720	730	101.4%	22.5	0.0	C
	Right Turn	180	188	104.4%	17.6	0.0	B
	Subtotal	**1,010**	**1,030**	**102.0%**	**23.8**	**0.0**	**C**
WB	Left Turn	110	104	94.5%	41.4	0.0	D
	Through	740	748	101.1%	21.7	0.0	C
	Right Turn	50	48	96.0%	16.9	0.0	B
	Subtotal	**900**	**900**	**100.0%**	**23.7**	**0.0**	**C**
Total		**2,690**	**2,709**	**100.7%**	**24.5**	**0.0**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	32	106.7%	40.1	0.0	D
	Through	700	706	100.9%	31.4	0.0	C
	Right Turn	10	10	100.0%	19.5	0.0	B
	Subtotal	**740**	**748**	**101.1%**	**31.6**	**0.0**	**C**
SB	Left Turn	140	143	102.1%	42.1	0.0	D
	Through	520	521	100.2%	18.7	0.0	B
	Right Turn	140	138	98.6%	7.9	0.0	A
	Subtotal	**800**	**802**	**100.3%**	**21.0**	**0.0**	**C**
EB	Left Turn	130	126	96.9%	38.5	0.0	D
	Through	170	170	100.0%	28.2	0.0	C
	Right Turn	60	56	93.3%	6.9	0.0	A
	Subtotal	**360**	**352**	**97.8%**	**28.5**	**0.0**	**C**
WB	Left Turn	10	9	90.0%	42.5	0.0	D
	Through	40	43	107.5%	32.7	0.0	C
	Right Turn	120	120	100.0%	7.6	0.0	A
	Subtotal	**170**	**172**	**101.2%**	**15.7**	**0.0**	**B**
Total		**2,070**	**2,074**	**100.2%**	**25.7**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	68	97.1%	29.7	0.0	C
	Through	530	535	100.9%	11.5	0.0	B
	Right Turn	30	31	103.3%	5.4	0.0	A
	Subtotal	**630**	**634**	**100.6%**	**13.2**	**0.0**	**B**
SB	Left Turn	10	9	90.0%	31.7	0.0	C
	Through	410	406	99.0%	15.9	0.0	B
	Right Turn	190	194	102.1%	6.5	0.0	A
	Subtotal	**610**	**609**	**99.8%**	**13.1**	**0.0**	**B**
EB	Left Turn	160	155	96.9%	24.7	0.0	C
	Through	100	97	97.0%	18.8	0.0	B
	Right Turn	110	119	108.2%	4.5	0.0	A
	Subtotal	**370**	**371**	**100.3%**	**16.7**	**0.0**	**B**
WB	Left Turn	20	21	105.0%	31.2	0.0	C
	Through	60	62	103.3%	30.2	0.0	C
	Right Turn	10	11	110.0%	10.0	0.0	A
	Subtotal	**90**	**94**	**104.4%**	**28.1**	**0.0**	**C**
Total		**1,700**	**1,708**	**100.5%**	**14.7**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Queue Length | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	45	93	117	0	0
	Through	2,431	58	114	146	0	0
	Right Turn	2,431	58	114	146	0	0
SB	Left Turn	300	34	80	109	0	0
	Through	2,373	43	89	114	0	0
	Right Turn	2,373	43	89	114	0	0
EB	Left Turn	530	28	63	80	0	0
	Through	3,294	82	135	154	0	0
	Right Turn	410	37	69	83	0	0
WB	Left Turn	580	28	67	86	0	0
	Through	2,554	101	177	209	0	0
	Right Turn	530	12	38	52	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	157	254	297	0	0
	Through	3,683	70	135	165	0	0
	Right Turn	400	51	99	124	0	0
SB	Left Turn	300	43	88	109	0	0
	Through	3,958	87	154	184	0	0
	Right Turn	3,958	87	154	184	0	0
EB	Left Turn	715	38	88	115	0	0
	Through	2,554	142	217	256	0	0
	Right Turn	355	66	122	154	0	0
WB	Left Turn	660	132	217	241	0	0
	Through	3,622	92	162	204	0	0
	Right Turn	415	8	28	42	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	44	109	154	0	0
	Through	464	150	240	272	5	0
	Right Turn	464	138	223	263	0	0
SB	Left Turn	290	177	**294**	**302**	4	0
	Through	5,159	182	320	374	0	0
	Right Turn	800	142	254	293	0	0
EB	Left Turn	250	171	**287**	**300**	4	0
	Through	5,459	192	380	414	2	0
	Right Turn	5,459	192	380	414	2	0
WB	Left Turn	90	18	71	**124**	0	0
	Through	491	245	409	447	41	1
	Right Turn	160	92	**230**	**220**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Queue Length | **PM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	104	190	243	0	0
	Right Turn						
SB	Left Turn						
	Through	464	107	239	286	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	57	113	132	0	0
	Through						
	Right Turn	672	57	113	132	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	85	162	197	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	206	352	390	0	0
	Right Turn	491	206	352	390	0	0
WB	Left Turn	530	72	146	188	0	0
	Through	3,699	13	140	92	0	0
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	260	163	**286**	**283**	6	0
	Through	1,946	179	310	340	0	0
	Right Turn	540	65	120	150	0	0
SB	Left Turn	420	40	90	108	0	0
	Through	520	117	186	214	0	0
	Right Turn	535	59	105	134	0	0
EB	Left Turn	775	106	179	202	0	0
	Through	1,459	110	190	216	0	0
	Right Turn	660	97	183	233	0	0
WB	Left Turn	975	63	117	140	0	0
	Through	2,547	128	211	250	0	0
	Right Turn	2,547	136	218	241	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Queue Length | **PM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	165	**257**	**283**	2	0
	Through	3,853	196	273	333	5	0
	Right Turn	200	65	163	**242**	0	0
SB	Left Turn	500	202	299	345	0	0
	Through	1,774	259	366	398	0	0
	Right Turn	1,774	252	361	384	0	0
EB	Left Turn	350	230	**479**	**410**	0	0
	Through	4,932	479	791	769	32	0
	Right Turn	350	274	**537**	**410**	0	0
WB	Left Turn	300	**388**	199	221	1	0
	Through	4,465	191	266	300	0	0
	Right Turn	350	83	181	215	0	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	260	48	93	110	0	0
	Through	1,530	107	176	210	0	0
	Right Turn						
SB	Left Turn	110	16	49	68	0	0
	Through	1,977	77	135	164	3	0
	Right Turn						
EB	Left Turn	500	79	138	157	0	0
	Through	2,570	110	183	214	0	0
	Right Turn						
WB	Left Turn	420	73	133	163	0	0
	Through	2,632	111	185	220	0	0
	Right Turn						

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	126	195	226	0	0
	Through	1,262	113	190	220	0	0
	Right Turn	1,262	102	181	208	0	0
SB	Left Turn	300	65	117	140	0	0
	Through	1,270	79	134	168	0	0
	Right Turn	300	55	95	124	0	0
EB	Left Turn	300	154	241	277	0	0
	Through	1,407	199	293	336	0	0
	Right Turn	300	68	122	151	0	0
WB	Left Turn	300	56	105	124	0	0
	Through	1,696	180	259	276	0	0
	Right Turn	1,696	48	122	165	0	0

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	114	**201**	**230**	1	0
	Through	2,570	85	167	216	0	0
	Right Turn	2,570	164	279	324	0	0
SB	Left Turn	150	50	106	141	1	0
	Through	2,170	86	160	202	15	0
	Right Turn	75	37	**93**	**133**	0	0
EB	Left Turn	525	72	132	161	0	0
	Through	2,722	165	265	303	0	0
	Right Turn	2,722	173	277	318	0	0
WB	Left Turn	625	143	218	246	0	0
	Through	3,152	66	124	148	0	0
	Right Turn	675	83	157	180	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	170	95	**226**	**229**	0	0
	Through	1,580	379	741	910	34	0
	Right Turn	240	182	**364**	**300**	0	0
SB	Left Turn	315	70	201	296	0	0
	Through	3,994	250	426	467	6	0
	Right Turn	3,994	49	88	114	0	0
EB	Left Turn	410	206	361	394	1	0
	Through	2,526	135	231	279	0	0
	Right Turn	2,526	140	213	245	0	0
WB	Left Turn	310	200	**343**	**351**	8	0
	Through	1,889	153	361	399	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	128	191	220	0	0
	Through	2,052	135	206	228	0	0
	Right Turn	2,052	122	200	219	0	0
SB	Left Turn	300	27	68	95	0	0
	Through	2,174	137	211	237	0	0
	Right Turn	300	31	62	79	0	0
EB	Left Turn	1,356	71	125	143	0	0
	Through	1,356	111	178	199	0	0
	Right Turn						
WB	Left Turn	300	20	52	68	0	0
	Through	1,329	101	158	177	0	0
	Right Turn	300	15	44	50	0	0

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	62	171	**251**	0	0
	Through	1,227	209	360	414	8	0
	Right Turn	1,227	209	360	414	8	0
SB	Left Turn	175	**183**	**271**	**235**	14	0
	Through	1,689	264	564	584	25	0
	Right Turn	100	98	**190**	**160**	4	0
EB	Left Turn	775	223	440	491	0	0
	Through	3,468	356	610	652	1	0
	Right Turn	3,468	356	610	652	1	0
WB	Left Turn	75	45	**116**	**134**	6	0
	Through	3,304	496	959	891	61	0
	Right Turn	150	123	**260**	**210**	0	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	267	**437**	**360**	5	0
	Through	2,313	688	1568	1260	32	2
	Right Turn	2,313	688	1568	1260	32	2
SB	Left Turn	300	63	167	245	0	0
	Through	2,478	239	402	441	6	0
	Right Turn	2,478	239	402	441	6	0
EB	Left Turn	300	164	**398**	**360**	0	0
	Through	2,078	853	1557	1419	53	0
	Right Turn	2,078	853	1557	1419	53	0
WB	Left Turn	300	167	**331**	**349**	6	0
	Through	2,824	294	551	612	7	0
	Right Turn	2,824	294	551	612	7	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,573	64	132	171	0	0
	Through						
	Right Turn	150	77	149	**178**	1	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	1,822	280	498	576	30	0
	Right Turn	100	96	**196**	**160**	0	0
WB	Left Turn	200	124	**205**	**231**	2	0
	Through	1,982	80	191	243	0	0
	Right Turn						

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	39	152	**286**	0	0
	Through	2,156	315	655	779	27	0
	Right Turn	150	142	**263**	**210**	1	0
SB	Left Turn	250	39	144	239	0	0
	Through	2,402	220	387	483	8	0
	Right Turn	2,402	31	63	77	0	0
EB	Left Turn	150	94	**183**	**209**	1	0
	Through	1,949	153	283	361	33	0
	Right Turn	75	39	**119**	**135**	0	0
WB	Left Turn	150	**165**	**239**	**210**	22	0
	Through	2,758	190	433	522	18	0
	Right Turn	75	20	73	**132**	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn	1,916	148	341	428	0	0
	Through						
	Right Turn	1,916	148	341	428	0	0
EB	Left Turn	2,004	84	165	217	0	0
	Through	2,004	84	165	217	0	0
	Right Turn						
WB	Left Turn						
	Through	5,483	2	19	41	0	0
	Right Turn	5,483	2	19	41	0	0

Intersection 18 **Bentley Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,498	27	58	74	7	0
	Through	1,498	27	58	74	7	0
	Right Turn	20	13	**43**	**64**	1	0
SB	Left Turn	1,216	41	81	113	11	0
	Through	1,216	41	81	113	11	0
	Right Turn	20	**38**	**61**	**65**	8	0
EB	Left Turn	2,720	6	31	61	0	0
	Through	2,720	6	31	61	0	0
	Right Turn	2,720	6	31	61	0	0
WB	Left Turn	2,487	4	23	43	0	0
	Through	2,487	4	23	43	0	0
	Right Turn	2,487	4	23	43	0	0

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	62	118	150	0	0
	Through	1,261	57	111	132	0	0
	Right Turn	1,261	57	111	132	0	0
SB	Left Turn	100	58	**104**	**125**	2	0
	Through	1,636	30	87	136	0	0
	Right Turn	75	43	**88**	**115**	2	0
EB	Left Turn	250	85	211	**309**	0	0
	Through	4,920	262	495	622	11	0
	Right Turn	200	27	135	**236**	0	0
WB	Left Turn	250	32	113	234	0	0
	Through	2,614	285	494	599	14	0
	Right Turn	200	53	189	**260**	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	218	340	387	0	0
	Through	1,985	225	347	396	4	0
	Right Turn	300	101	223	291	0	0
SB	Left Turn	5,862	437	753	812	0	0
	Through	5,862	437	753	812	0	0
	Right Turn	5,862	324	565	636	0	0
EB	Left Turn	50	**94**	**130**	**110**	70	0
	Through	2,754	1164	2497	1990	42	7
	Right Turn	200	**251**	**293**	**260**	29	0
WB	Left Turn	300	216	**415**	**360**	0	0
	Through	2,542	523	918	989	32	0
	Right Turn	2,542	156	398	678	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	79	134	177	0	0
	Through	1,876	103	197	244	28	0
	Right Turn	50	**70**	**123**	**110**	7	0
SB	Left Turn	100	40	83	**110**	1	0
	Through	2,914	77	147	194	6	0
	Right Turn	100	47	97	**135**	0	0
EB	Left Turn	250	79	166	235	0	0
	Through	1,983	180	294	338	2	0
	Right Turn	1,983	193	308	346	0	0
WB	Left Turn	200	74	145	**201**	0	0
	Through	2,687	156	257	283	2	0
	Right Turn	2,687	177	280	307	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Queue Length | **PM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	31	90	126	0	0
	Through	1,499	210	316	371	1	0
	Right Turn	300	172	291	**341**	0	0
SB	Left Turn	400	103	186	218	0	0
	Through	1,983	119	205	245	0	0
	Right Turn	300	90	188	229	0	0
EB	Left Turn	225	96	176	215	0	0
	Through	5,669	96	187	246	1	0
	Right Turn	225	27	69	88	0	0
WB	Left Turn	225	10	40	58	0	0
	Through	2,158	33	79	104	0	0
	Right Turn	225	44	83	106	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	46	96	128	0	0
	Through	1,326	87	151	176	0	0
	Right Turn	1,326	61	124	155	0	0
SB	Left Turn	350	9	35	51	0	0
	Through	1,404	100	162	185	0	0
	Right Turn	350	50	87	104	0	0
EB	Left Turn	225	81	150	176	0	0
	Through	1,997	41	87	112	0	0
	Right Turn	225	27	55	71	0	0
WB	Left Turn	175	20	56	76	0	0
	Through	2,609	47	94	122	0	0
	Right Turn	2,609	47	94	122	0	0

Intersection 31 **Bend** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn	500					
	Through						
	Right Turn						
WB	Left Turn	500					
	Through						
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 No Project**
Queue Length | **PM Peak Hour**

Intersection 90 **Bend** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn						
	Through						
	Right Turn						

Intersection 101 **SR 219 (Kiernan Ave)#1** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	314	41	83	108	0	0
SB	Left Turn						
	Through						
	Right Turn	264	10	37	48	0	0
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn						
	Through						
	Right Turn						

Intersection 103 **Claribel Rd** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	Not Analyzed with SimTraffic					
	Through						
	Right Turn						
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn						
	Through						
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	180	177	98.3%	33.7	0.0	C
	Through	60	62	103.3%	18.0	0.0	B
	Right Turn	20	21	105.0%	6.8	0.0	A
	Subtotal	**260**	**260**	**100.0%**	**27.8**	**0.0**	**C**
SB	Left Turn	20	19	95.0%	35.4	0.0	D
	Through	120	121	100.8%	31.1	0.0	C
	Right Turn	40	40	100.0%	15.3	0.0	B
	Subtotal	**180**	**180**	**100.0%**	**28.0**	**0.0**	**C**
EB	Left Turn	40	40	100.0%	34.6	0.0	C
	Through	640	655	102.3%	24.0	0.0	C
	Right Turn	110	116	105.5%	8.1	0.0	A
	Subtotal	**790**	**811**	**102.7%**	**22.2**	**0.0**	**C**
WB	Left Turn	190	190	100.0%	38.8	0.0	D
	Through	990	997	100.7%	21.6	0.0	C
	Right Turn	50	54	108.0%	10.2	0.0	B
	Subtotal	**1,230**	**1,241**	**100.9%**	**23.7**	**0.0**	**C**
Total		**2,460**	**2,492**	**101.3%**	**24.0**	**0.0**	**C**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	90	90	100.0%	21.7	0.0	C
	Through	70	69	98.6%	17.4	0.0	B
	Right Turn	120	116	96.7%	2.2	0.0	A
	Subtotal	**280**	**275**	**98.2%**	**12.4**	**0.0**	**B**
SB	Left Turn	30	27	90.0%	27.0	0.0	C
	Through	100	100	100.0%	22.0	0.0	C
	Right Turn	50	53	106.0%	8.1	0.0	A
	Subtotal	**180**	**180**	**100.0%**	**18.7**	**0.0**	**B**
EB	Left Turn	30	29	96.7%	36.6	0.0	D
	Through	450	460	102.2%	22.8	0.0	C
	Right Turn	200	207	103.5%	15.7	0.0	B
	Subtotal	**680**	**696**	**102.4%**	**21.3**	**0.0**	**C**
WB	Left Turn	390	377	96.7%	26.9	0.0	C
	Through	1,090	1,091	100.1%	12.9	0.0	B
	Right Turn	20	22	110.0%	3.7	0.0	A
	Subtotal	**1,500**	**1,490**	**99.3%**	**16.3**	**0.0**	**B**
Total		**2,640**	**2,641**	**100.0%**	**17.4**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	21	105.0%	48.8	0.0	D
	Through	290	287	99.0%	30.6	0.0	C
	Right Turn	10	10	100.0%	18.0	0.0	B
	Subtotal	**320**	**318**	**99.4%**	**31.4**	**0.0**	**C**
SB	Left Turn	70	69	98.6%	46.7	0.0	D
	Through	410	412	100.5%	29.1	0.0	C
	Right Turn	200	205	102.5%	22.2	0.0	C
	Subtotal	**680**	**686**	**100.9%**	**28.8**	**0.0**	**C**
EB	Left Turn	130	128	98.5%	41.5	0.0	D
	Through	70	71	101.4%	18.4	0.0	B
	Right Turn	40	38	95.0%	8.1	0.0	A
	Subtotal	**240**	**237**	**98.8%**	**29.2**	**0.0**	**C**
WB	Left Turn	10	8	80.0%	49.7	0.0	D
	Through	370	370	100.0%	32.2	0.0	C
	Right Turn	130	129	99.2%	9.1	0.0	A
	Subtotal	**510**	**507**	**99.4%**	**26.6**	**0.0**	**C**
Total		**1,750**	**1,748**	**99.9%**	**28.7**	**0.0**	**C**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	310	307	99.0%	8.2	0.0	A
	Right Turn	70	73	104.3%	0.1	0.0	A
	Subtotal	**380**	**380**	**100.0%**	**6.6**	**0.0**	**A**
SB	Left Turn						
	Through	460	459	99.8%	12.6	0.0	B
	Right Turn						
	Subtotal	**460**	**459**	**99.8%**	**12.6**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	260	256	98.5%	15.9	0.0	B
	Through	10	11	110.0%	5.6	0.0	A
	Right Turn						
	Subtotal	**270**	**267**	**98.9%**	**15.5**	**0.0**	**B**
Total		**1,110**	**1,106**	**99.6%**	**11.2**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	70	73	104.3%	3.2	0.0	A
	Subtotal	**70**	**73**	**104.3%**	**3.2**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	140	140	100.0%	10.4	0.0	B
	Right Turn	10	12	120.0%	3.8	0.0	A
	Subtotal	**150**	**152**	**101.3%**	**9.9**	**0.0**	**A**
WB	Left Turn	260	254	97.7%	14.9	0.0	B
	Through	510	505	99.0%	4.5	0.0	A
	Right Turn						
	Subtotal	**770**	**759**	**98.6%**	**8.0**	**0.0**	**A**
Total		**990**	**984**	**99.4%**	**7.9**	**0.0**	**A**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	90	90	100.0%	19.1	0.0	B
	Through	280	277	98.9%	11.8	0.0	B
	Right Turn	90	89	98.9%	4.3	0.0	A
	Subtotal	**460**	**456**	**99.1%**	**11.8**	**0.0**	**B**
SB	Left Turn	40	38	95.0%	17.4	0.0	B
	Through	500	499	99.8%	13.6	0.0	B
	Right Turn	210	212	101.0%	7.4	0.0	A
	Subtotal	**750**	**749**	**99.9%**	**12.0**	**0.0**	**B**
EB	Left Turn	30	29	96.7%	15.4	0.0	B
	Through						
	Right Turn	100	99	99.0%	17.8	0.0	B
	Subtotal	**130**	**128**	**98.5%**	**17.3**	**0.0**	**B**
WB	Left Turn	260	249	95.8%	19.0	0.0	B
	Through						
	Right Turn	190	200	105.3%	20.2	0.0	C
	Subtotal	**450**	**449**	**99.8%**	**19.5**	**0.0**	**B**
Total		**1,790**	**1,782**	**99.6%**	**14.2**	**0.0**	**B**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	190	194	102.1%	48.1	0.0	D
	Through	660	667	101.1%	31.2	0.0	C
	Right Turn	150	150	100.0%	7.9	0.0	A
	Subtotal	**1,000**	**1,011**	**101.1%**	**31.0**	**0.0**	**C**
SB	Left Turn	100	93	93.0%	41.5	0.0	D
	Through	620	614	99.0%	28.5	0.0	C
	Right Turn	140	141	100.7%	13.2	0.0	B
	Subtotal	**860**	**848**	**98.6%**	**27.4**	**0.0**	**C**
EB	Left Turn	260	263	101.2%	46.4	0.0	D
	Through	600	604	100.7%	30.2	0.0	C
	Right Turn	180	179	99.4%	6.6	0.0	A
	Subtotal	**1,040**	**1,046**	**100.6%**	**30.2**	**0.0**	**C**
WB	Left Turn	190	185	97.4%	47.8	0.0	D
	Through	920	929	101.0%	35.2	0.0	D
	Right Turn	280	282	100.7%	11.2	0.0	B
	Subtotal	**1,390**	**1,396**	**100.4%**	**32.0**	**0.0**	**C**
Total		**4,290**	**4,301**	**100.3%**	**30.4**	**0.0**	**C**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	250	250	100.0%	18.9	0.0	B
	Through	170	172	101.2%	5.1	0.0	A
	Right Turn	180	184	102.2%	2.4	0.0	A
	Subtotal	**600**	**606**	**101.0%**	**10.0**	**0.0**	**A**
SB	Left Turn	20	21	105.0%	24.3	0.0	C
	Through	270	273	101.1%	13.7	0.0	B
	Right Turn	260	262	100.8%	8.5	0.0	A
	Subtotal	**550**	**556**	**101.1%**	**11.7**	**0.0**	**B**
EB	Left Turn	40	40	100.0%	21.0	0.0	C
	Through						
	Right Turn	50	51	102.0%	11.9	0.0	B
	Subtotal	**90**	**91**	**101.1%**	**15.9**	**0.0**	**B**
WB	Left Turn	300	299	99.7%	18.6	0.0	B
	Through						
	Right Turn	20	20	100.0%	21.6	0.0	C
	Subtotal	**320**	**319**	**99.7%**	**18.8**	**0.0**	**B**
Total		**1,560**	**1,572**	**100.8%**	**12.7**	**0.0**	**B**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	360	363	100.8%	30.7	0.0	C
	Through	410	419	102.2%	14.9	0.0	B
	Right Turn	60	62	103.3%	7.4	0.0	A
	Subtotal	**830**	**844**	**101.7%**	**21.1**	**0.0**	**C**
SB	Left Turn	30	28	93.3%	38.3	0.0	D
	Through	390	390	100.0%	30.5	0.0	C
	Right Turn	210	216	102.9%	8.8	0.0	A
	Subtotal	**630**	**634**	**100.6%**	**23.5**	**0.0**	**C**
EB	Left Turn	150	138	92.0%	36.4	0.0	D
	Through	380	373	98.2%	20.4	0.0	C
	Right Turn	220	217	98.6%	6.8	0.0	A
	Subtotal	**750**	**728**	**97.1%**	**19.4**	**0.0**	**B**
WB	Left Turn	70	72	102.9%	35.9	0.0	D
	Through	800	805	100.6%	26.9	0.0	C
	Right Turn	60	60	100.0%	9.2	0.0	A
	Subtotal	**930**	**937**	**100.8%**	**26.5**	**0.0**	**C**
Total		**3,140**	**3,143**	**100.1%**	**22.8**	**0.0**	**C**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	120	124	103.3%	39.6	0.0	D
	Through	50	52	104.0%	29.5	0.0	C
	Right Turn	70	75	107.1%	30.2	0.0	C
	Subtotal	**240**	**251**	**104.6%**	**34.7**	**0.0**	**C**
SB	Left Turn	50	49	98.0%	42.8	0.0	D
	Through	60	55	91.7%	37.4	0.0	D
	Right Turn	100	101	101.0%	7.2	0.0	A
	Subtotal	**210**	**205**	**97.6%**	**23.8**	**0.0**	**C**
EB	Left Turn	30	26	86.7%	46.3	0.0	D
	Through	160	163	101.9%	11.6	0.0	B
	Right Turn	20	22	110.0%	3.9	0.0	A
	Subtotal	**210**	**211**	**100.5%**	**15.1**	**0.0**	**B**
WB	Left Turn	140	138	98.6%	40.6	0.0	D
	Through	490	487	99.4%	10.7	0.0	B
	Right Turn	40	40	100.0%	7.2	0.0	A
	Subtotal	**670**	**665**	**99.3%**	**16.7**	**0.0**	**B**
Total		**1,330**	**1,332**	**100.2%**	**20.9**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	32	106.7%	34.1	0.0	C
	Through	210	215	102.4%	17.9	0.0	B
	Right Turn	230	230	100.0%	6.4	0.0	A
	Subtotal	**470**	**477**	**101.5%**	**13.4**	**0.0**	**B**
SB	Left Turn	40	41	102.5%	35.6	0.0	D
	Through	440	435	98.9%	19.8	0.0	B
	Right Turn	40	43	107.5%	13.6	0.0	B
	Subtotal	**520**	**519**	**99.8%**	**20.5**	**0.0**	**C**
EB	Left Turn	80	80	100.0%	22.0	0.0	C
	Through	30	28	93.3%	31.7	0.0	C
	Right Turn	80	79	98.8%	6.9	0.0	A
	Subtotal	**190**	**187**	**98.4%**	**17.1**	**0.0**	**B**
WB	Left Turn	390	392	100.5%	23.1	0.0	C
	Through	10	9	90.0%	35.7	0.0	D
	Right Turn	50	51	102.0%	3.4	0.0	A
	Subtotal	**450**	**452**	**100.4%**	**21.1**	**0.0**	**C**
Total		**1,630**	**1,635**	**100.3%**	**18.2**	**0.0**	**B**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	550	560	101.8%	32.8	0.0	C
	Through	350	356	101.7%	8.4	0.0	A
	Right Turn	20	21	105.0%	2.6	0.0	A
	Subtotal	**920**	**937**	**101.8%**	**22.9**	**0.0**	**C**
SB	Left Turn	10	9	90.0%	39.0	0.0	D
	Through	600	621	103.5%	30.0	0.0	C
	Right Turn	270	278	103.0%	6.8	0.0	A
	Subtotal	**880**	**908**	**103.2%**	**23.0**	**0.0**	**C**
EB	Left Turn	160	159	99.4%	47.3	0.0	D
	Through	100	99	99.0%	21.6	0.0	C
	Right Turn	200	206	103.0%	2.0	0.0	A
	Subtotal	**460**	**464**	**100.9%**	**21.7**	**0.0**	**C**
WB	Left Turn	10	11	110.0%	37.6	0.0	D
	Through	180	176	97.8%	31.6	0.0	C
	Right Turn	10	12	120.0%	3.4	0.0	A
	Subtotal	**200**	**199**	**99.5%**	**30.2**	**0.0**	**C**
Total		**2,460**	**2,508**	**102.0%**	**23.3**	**0.0**	**C**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	47	94.0%	23.8	0.0	C
	Through	190	182	95.8%	30.6	0.0	C
	Right Turn	40	42	105.0%	20.6	0.0	C
	Subtotal	**280**	**271**	**96.8%**	**27.9**	**0.0**	**C**
SB	Left Turn	140	138	98.6%	26.9	0.0	C
	Through	130	131	100.8%	27.6	0.0	C
	Right Turn	180	181	100.6%	7.4	0.0	A
	Subtotal	**450**	**450**	**100.0%**	**19.3**	**0.0**	**B**
EB	Left Turn	120	118	98.3%	33.3	0.0	C
	Through	90	90	100.0%	18.4	0.0	B
	Right Turn	20	23	115.0%	7.6	0.0	A
	Subtotal	**230**	**231**	**100.4%**	**24.9**	**0.0**	**C**
WB	Left Turn	20	20	100.0%	42.6	0.0	D
	Through	190	193	101.6%	30.5	0.0	C
	Right Turn	170	162	95.3%	9.7	0.0	A
	Subtotal	**380**	**375**	**98.7%**	**22.2**	**0.0**	**C**
Total		**1,340**	**1,327**	**99.0%**	**22.8**	**0.0**	**C**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	20	20	100.0%	4.4	0.0	A
	Through	270	263	97.4%	2.5	0.0	A
	Right Turn	20	20	100.0%	1.5	0.0	A
	Subtotal	**310**	**303**	**97.7%**	**2.6**	**0.0**	**A**
SB	Left Turn	20	21	105.0%	2.8	0.0	A
	Through	360	357	99.2%	0.6	0.0	A
	Right Turn	10	12	120.0%	0.1	0.0	A
	Subtotal	**390**	**390**	**100.0%**	**0.7**	**0.0**	**A**
EB	Left Turn	30	30	100.0%	10.4	0.0	B
	Through	50	50	100.0%	12.1	0.0	B
	Right Turn	140	142	101.4%	4.9	0.0	A
	Subtotal	**220**	**222**	**100.9%**	**7.3**	**0.0**	**A**
WB	Left Turn	10	8	80.0%	11.5	0.0	B
	Through	50	48	96.0%	13.7	0.0	B
	Right Turn	30	33	110.0%	2.1	0.0	A
	Subtotal	**90**	**89**	**98.9%**	**9.2**	**0.0**	**A**
Total		**1,010**	**1,004**	**99.4%**	**3.5**	**0.0**	**A**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	60	56	93.3%	15.1	0.0	B
	Through						
	Right Turn	10	10	100.0%	3.1	0.0	A
	Subtotal	**70**	**66**	**94.3%**	**13.3**	**0.0**	**B**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	100	104	104.0%	6.8	0.0	A
	Right Turn	120	121	100.8%	3.1	0.0	A
	Subtotal	**220**	**225**	**102.3%**	**4.8**	**0.0**	**A**
WB	Left Turn	70	69	98.6%	8.2	0.0	A
	Through	340	346	101.8%	2.0	0.0	A
	Right Turn						
	Subtotal	**410**	**415**	**101.2%**	**3.0**	**0.0**	**A**
Total		**700**	**706**	**100.9%**	**4.6**	**0.0**	**A**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	230	231	100.4%	35.3	0.0	D
	Through	110	110	100.0%	19.0	0.0	B
	Right Turn	230	228	99.1%	8.2	0.0	A
	Subtotal	**570**	**569**	**99.8%**	**21.3**	**0.0**	**C**
SB	Left Turn	50	52	104.0%	30.6	0.0	C
	Through	160	162	101.3%	29.4	0.0	C
	Right Turn	240	233	97.1%	11.8	0.0	B
	Subtotal	**450**	**447**	**99.3%**	**20.4**	**0.0**	**C**
EB	Left Turn	150	141	94.0%	27.7	0.0	C
	Through	890	899	101.0%	21.5	0.0	C
	Right Turn	150	147	98.0%	4.2	0.0	A
	Subtotal	**1,190**	**1,187**	**99.7%**	**20.1**	**0.0**	**C**
WB	Left Turn	240	246	102.5%	28.8	0.0	C
	Through	820	813	99.1%	18.4	0.0	B
	Right Turn	40	42	105.0%	3.0	0.0	A
	Subtotal	**1,100**	**1,101**	**100.1%**	**20.1**	**0.0**	**C**
Total		**3,310**	**3,304**	**99.8%**	**20.4**	**0.0**	**C**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	10	100.0%	6.1	0.0	A
	Through	10	10	100.0%	6.8	0.0	A
	Right Turn	10	11	110.0%	3.0	0.0	A
	Subtotal	**30**	**31**	**103.3%**	**5.2**	**0.0**	**A**
SB	Left Turn	40	38	95.0%	5.7	0.0	A
	Through	10	10	100.0%	8.4	0.0	A
	Right Turn	10	10	100.0%	1.7	0.0	A
	Subtotal	**60**	**58**	**96.7%**	**5.5**	**0.0**	**A**
EB	Left Turn	120	118	98.3%	2.0	0.0	A
	Through	50	47	94.0%	1.4	0.0	A
	Right Turn	10	11	110.0%	0.5	0.0	A
	Subtotal	**180**	**176**	**97.8%**	**1.7**	**0.0**	**A**
WB	Left Turn	10	9	90.0%	1.8	0.0	A
	Through	120	118	98.3%	1.9	0.0	A
	Right Turn	40	40	100.0%	1.1	0.0	A
	Subtotal	**170**	**167**	**98.2%**	**1.7**	**0.0**	**A**
Total		**440**	**432**	**98.2%**	**2.5**	**0.0**	**A**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	20	20	100.0%	5.0	0.0	A
	Through	10	8	80.0%	9.3	0.0	A
	Right Turn	10	10	100.0%	2.2	0.0	A
	Subtotal	**40**	**38**	**95.0%**	**5.2**	**0.0**	**A**
SB	Left Turn	10	9	90.0%	4.9	0.0	A
	Through	30	28	93.3%	9.2	0.0	A
	Right Turn	20	20	100.0%	3.0	0.0	A
	Subtotal	**60**	**57**	**95.0%**	**6.3**	**0.0**	**A**
EB	Left Turn	10	8	80.0%	2.5	0.0	A
	Through	100	97	97.0%	1.0	0.0	A
	Right Turn	10	11	110.0%	0.9	0.0	A
	Subtotal	**120**	**116**	**96.7%**	**1.1**	**0.0**	**A**
WB	Left Turn	20	17	85.0%	1.3	0.0	A
	Through	220	218	99.1%	1.5	0.0	A
	Right Turn	20	20	100.0%	0.7	0.0	A
	Subtotal	**260**	**255**	**98.1%**	**1.4**	**0.0**	**A**
Total		**480**	**466**	**97.1%**	**2.2**	**0.0**	**A**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	90	85	94.4%	16.0	0.0	B
	Through	60	61	101.7%	12.4	0.0	B
	Right Turn	20	20	100.0%	5.2	0.0	A
	Subtotal	**170**	**166**	**97.6%**	**13.4**	**0.0**	**B**
SB	Left Turn	110	109	99.1%	17.2	0.0	B
	Through	60	61	101.7%	12.5	0.0	B
	Right Turn	140	142	101.4%	4.8	0.0	A
	Subtotal	**310**	**312**	**100.6%**	**10.6**	**0.0**	**B**
EB	Left Turn	70	71	101.4%	19.5	0.0	B
	Through	330	321	97.3%	9.2	0.0	A
	Right Turn	50	52	104.0%	4.6	0.0	A
	Subtotal	**450**	**444**	**98.7%**	**10.3**	**0.0**	**B**
WB	Left Turn	40	38	95.0%	22.4	0.0	C
	Through	260	256	98.5%	12.1	0.0	B
	Right Turn	70	72	102.9%	5.4	0.0	A
	Subtotal	**370**	**366**	**98.9%**	**11.9**	**0.0**	**B**
Total		**1,300**	**1,288**	**99.1%**	**11.2**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	98	98.0%	32.1	0.0	C
	Through	290	288	99.3%	32.3	0.0	C
	Right Turn	40	43	107.5%	6.9	0.0	A
	Subtotal	**430**	**429**	**99.8%**	**29.7**	**0.0**	**C**
SB	Left Turn	260	259	99.6%	35.9	0.0	D
	Through	390	382	97.9%	31.9	0.0	C
	Right Turn	70	77	110.0%	25.7	0.0	C
	Subtotal	**720**	**718**	**99.7%**	**32.7**	**0.0**	**C**
EB	Left Turn	110	109	99.1%	48.2	0.0	D
	Through	230	236	102.6%	23.4	0.0	C
	Right Turn	60	60	100.0%	15.1	0.0	B
	Subtotal	**400**	**405**	**101.3%**	**28.8**	**0.0**	**C**
WB	Left Turn	10	9	90.0%	38.3	0.0	D
	Through	170	167	98.2%	31.0	0.0	C
	Right Turn	270	270	100.0%	8.3	0.0	A
	Subtotal	**450**	**446**	**99.1%**	**17.4**	**0.0**	**B**
Total		**2,000**	**1,998**	**99.9%**	**27.9**	**0.0**	**C**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	260	260	100.0%	25.7	0.0	C
	Through	110	108	98.2%	18.2	0.0	B
	Right Turn	80	84	105.0%	5.2	0.0	A
	Subtotal	**450**	**452**	**100.4%**	**20.1**	**0.0**	**C**
SB	Left Turn	30	32	106.7%	30.3	0.0	C
	Through	150	138	92.0%	25.1	0.0	C
	Right Turn	100	101	101.0%	8.3	0.0	A
	Subtotal	**280**	**271**	**96.8%**	**19.5**	**0.0**	**B**
EB	Left Turn	50	49	98.0%	30.6	0.0	C
	Through	170	176	103.5%	18.3	0.0	B
	Right Turn	150	152	101.3%	8.1	0.0	A
	Subtotal	**370**	**377**	**101.9%**	**15.8**	**0.0**	**B**
WB	Left Turn	150	148	98.7%	26.4	0.0	C
	Through	150	148	98.7%	13.1	0.0	B
	Right Turn	40	42	105.0%	4.5	0.0	A
	Subtotal	**340**	**338**	**99.4%**	**17.9**	**0.0**	**B**
Total		**1,440**	**1,438**	**99.9%**	**18.3**	**0.0**	**B**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	20	18	90.0%	33.0	0.0	C
	Through	560	559	99.8%	20.2	0.0	C
	Right Turn	10	12	120.0%	9.5	0.0	A
	Subtotal	**590**	**589**	**99.8%**	**20.4**	**0.0**	**C**
SB	Left Turn	90	89	98.9%	30.4	0.0	C
	Through	500	497	99.4%	16.1	0.0	B
	Right Turn	70	69	98.6%	11.7	0.0	B
	Subtotal	**660**	**655**	**99.2%**	**17.6**	**0.0**	**B**
EB	Left Turn	30	30	100.0%	30.4	0.0	C
	Through	30	31	103.3%	30.3	0.0	C
	Right Turn	30	31	103.3%	5.0	0.0	A
	Subtotal	**90**	**92**	**102.2%**	**21.8**	**0.0**	**C**
WB	Left Turn	10	9	90.0%	32.1	0.0	C
	Through	70	76	108.6%	26.2	0.0	C
	Right Turn	240	235	97.9%	8.2	0.0	A
	Subtotal	**320**	**320**	**100.0%**	**13.1**	**0.0**	**B**
Total		**1,660**	**1,656**	**99.8%**	**18.0**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	60	59	98.3%	26.3	0.0	C
	Through	460	465	101.1%	10.7	0.0	B
	Right Turn	30	31	103.3%	4.2	0.0	A
	Subtotal	**550**	**555**	**100.9%**	**12.0**	**0.0**	**B**
SB	Left Turn	10	8	80.0%	34.8	0.0	C
	Through	520	513	98.7%	15.7	0.0	B
	Right Turn	30	30	100.0%	5.9	0.0	A
	Subtotal	**560**	**551**	**98.4%**	**15.4**	**0.0**	**B**
EB	Left Turn	30	32	106.7%	28.9	0.0	C
	Through	40	42	105.0%	21.9	0.0	C
	Right Turn	50	50	100.0%	4.4	0.0	A
	Subtotal	**120**	**124**	**103.3%**	**16.7**	**0.0**	**B**
WB	Left Turn	30	27	90.0%	29.5	0.0	C
	Through	170	173	101.8%	25.2	0.0	C
	Right Turn	10	14	140.0%	13.3	0.0	B
	Subtotal	**210**	**214**	**101.9%**	**25.0**	**0.0**	**C**
Total		**1,440**	**1,444**	**100.3%**	**15.6**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	30	30	100.0%	19.7	0.0	B
	Through	390	394	101.0%	5.9	0.0	A
	Right Turn	400	404	101.0%	5.1	0.0	A
	Subtotal	**820**	**828**	**101.0%**	**6.0**	**0.0**	**A**
SB	Left Turn	30	28	93.3%	21.7	0.0	C
	Through	540	542	100.4%	8.4	0.0	A
	Right Turn	340	340	100.0%	6.6	0.0	A
	Subtotal	**910**	**910**	**100.0%**	**8.1**	**0.0**	**A**
EB	Left Turn	50	49	98.0%	14.8	0.0	B
	Through						
	Right Turn	30	31	103.3%	20.1	0.0	C
	Subtotal	**80**	**80**	**100.0%**	**16.9**	**0.0**	**B**
WB	Left Turn	180	174	96.7%	16.9	0.0	B
	Through						
	Right Turn	30	33	110.0%	20.0	0.0	B
	Subtotal	**210**	**207**	**98.6%**	**17.4**	**0.0**	**B**
Total		**2,020**	**2,025**	**100.2%**	**8.6**	**0.0**	**A**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	150	151	100.7%	16.4	0.0	B
	Through	260	255	98.1%	6.3	0.0	A
	Right Turn	190	191	100.5%	3.6	0.0	A
	Subtotal	**600**	**597**	**99.5%**	**8.0**	**0.0**	**A**
SB	Left Turn	40	39	97.5%	20.5	0.0	C
	Through	420	418	99.5%	10.9	0.0	B
	Right Turn	50	51	102.0%	4.0	0.0	A
	Subtotal	**510**	**508**	**99.6%**	**10.9**	**0.0**	**B**
EB	Left Turn	10	10	100.0%	17.1	0.0	B
	Through						
	Right Turn	90	94	104.4%	13.4	0.0	B
	Subtotal	**100**	**104**	**104.0%**	**13.8**	**0.0**	**B**
WB	Left Turn	150	154	102.7%	16.3	0.0	B
	Through						
	Right Turn	40	38	95.0%	14.7	0.0	B
	Subtotal	**190**	**192**	**101.1%**	**16.0**	**0.0**	**B**
Total		**1,400**	**1,401**	**100.1%**	**10.6**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	9	90.0%	29.2	0.0	C
	Through	30	28	93.3%	25.0	0.0	C
	Right Turn	80	80	100.0%	3.7	0.0	A
	Subtotal	**120**	**117**	**97.5%**	**10.8**	**0.0**	**B**
SB	Left Turn	30	29	96.7%	28.8	0.0	C
	Through	30	28	93.3%	22.3	0.0	C
	Right Turn	680	681	100.1%	6.3	0.0	A
	Subtotal	**740**	**738**	**99.7%**	**7.8**	**0.0**	**A**
EB	Left Turn	480	476	99.2%	16.2	0.0	B
	Through	680	679	99.9%	6.8	0.0	A
	Right Turn	10	10	100.0%	1.0	0.0	A
	Subtotal	**1,170**	**1,165**	**99.6%**	**10.6**	**0.0**	**B**
WB	Left Turn	40	40	100.0%	27.4	0.0	C
	Through	410	406	99.0%	18.1	0.0	B
	Right Turn	10	10	100.0%	4.3	0.0	A
	Subtotal	**460**	**456**	**99.1%**	**18.6**	**0.0**	**B**
Total		**2,490**	**2,476**	**99.4%**	**11.2**	**0.0**	**B**

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	8	80.0%	48.4	0.0	D
	Through	590	583	98.8%	24.2	0.0	C
	Right Turn	230	236	102.6%	10.3	0.0	B
	Subtotal	**830**	**827**	**99.6%**	**20.5**	**0.0**	**C**
SB	Left Turn	10	9	90.0%	37.9	0.0	D
	Through	400	396	99.0%	18.0	0.0	B
	Right Turn	280	278	99.3%	3.3	0.0	A
	Subtotal	**690**	**683**	**99.0%**	**12.3**	**0.0**	**B**
EB	Left Turn	570	570	100.0%	23.6	0.0	C
	Through	180	180	100.0%	16.0	0.0	B
	Right Turn	40	40	100.0%	3.8	0.0	A
	Subtotal	**790**	**790**	**100.0%**	**20.9**	**0.0**	**C**
WB	Left Turn	220	218	99.1%	28.1	0.0	C
	Through	210	207	98.6%	23.8	0.0	C
	Right Turn						
	Subtotal	**430**	**425**	**98.8%**	**26.0**	**0.0**	**C**
Total		**2,740**	**2,725**	**99.5%**	**19.4**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 28 **Sterns Connection/NCC** **Roundabout**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	9	90.0%	4.2	0.0	A
	Through	10	10	100.0%	3.9	0.0	A
	Right Turn	10	10	100.0%	2.9	0.0	A
	Subtotal	**30**	**29**	**96.7%**	**3.6**	**0.0**	**A**
SB	Left Turn	10	9	90.0%	3.2	0.0	A
	Through	10	12	120.0%	3.5	0.0	A
	Right Turn	160	160	100.0%	2.9	0.0	A
	Subtotal	**180**	**181**	**100.6%**	**3.0**	**0.0**	**A**
EB	Left Turn	160	167	104.4%	4.0	0.0	A
	Through	250	247	98.8%	7.4	0.0	A
	Right Turn	10	11	110.0%	3.9	0.0	A
	Subtotal	**420**	**425**	**101.2%**	**6.0**	**0.0**	**A**
WB	Left Turn	10	9	90.0%	4.3	0.0	A
	Through	260	257	98.8%	6.4	0.0	A
	Right Turn	10	10	100.0%	2.1	0.0	A
	Subtotal	**280**	**276**	**98.6%**	**6.2**	**0.0**	**A**
Total		**910**	**911**	**100.1%**	**5.4**	**0.0**	**A**

Intersection 29 **NCC/SR120/108** **Roundabout**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	9	90.0%	1.7	0.0	A
	Through	10	9	90.0%	5.6	0.0	A
	Right Turn	250	250	100.0%	3.7	0.0	A
	Subtotal	**270**	**268**	**99.3%**	**3.7**	**0.0**	**A**
SB	Left Turn	20	17	85.0%	5.6	0.0	A
	Through	20	19	95.0%	6.1	0.0	A
	Right Turn	100	104	104.0%	3.6	0.0	A
	Subtotal	**140**	**140**	**100.0%**	**4.2**	**0.0**	**A**
EB	Left Turn	20	19	95.0%	4.8	0.0	A
	Through	220	224	101.8%	8.5	0.0	A
	Right Turn	30	30	100.0%	1.3	0.0	A
	Subtotal	**270**	**273**	**101.1%**	**7.5**	**0.0**	**A**
WB	Left Turn	230	225	97.8%	5.1	0.0	A
	Through	430	436	101.4%	7.7	0.0	A
	Right Turn	10	12	120.0%	2.9	0.0	A
	Subtotal	**670**	**673**	**100.4%**	**6.7**	**0.0**	**A**
Total		**1,350**	**1,354**	**100.3%**	**6.0**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 30 **McHenry Ave/Charity Way** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	75	93.8%	14.5	0.0	B
	Through	410	421	102.7%	4.5	0.0	A
	Right Turn	10	11	110.0%	2.9	0.0	A
	Subtotal	**500**	**507**	**101.4%**	**5.9**	**0.0**	**A**
SB	Left Turn	10	11	110.0%	18.3	0.0	B
	Through	720	713	99.0%	5.6	0.0	A
	Right Turn	10	11	110.0%	2.5	0.0	A
	Subtotal	**740**	**735**	**99.3%**	**5.7**	**0.0**	**A**
EB	Left Turn	20	19	95.0%	16.4	0.0	B
	Through	10	10	100.0%	15.4	0.0	B
	Right Turn	20	23	115.0%	4.1	0.0	A
	Subtotal	**50**	**52**	**104.0%**	**10.8**	**0.0**	**B**
WB	Left Turn	10	12	120.0%	16.0	0.0	B
	Through	10	12	120.0%	13.9	0.0	B
	Right Turn	10	12	120.0%	3.7	0.0	A
	Subtotal	**30**	**36**	**120.0%**	**11.2**	**0.0**	**B**
Total		**1,320**	**1,330**	**100.8%**	**6.2**	**0.0**	**A**

Intersection 31 **McHenry Ave/Galaxy Way** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	30	28	93.3%	15.1	0.0	B
	Through	400	397	99.3%	3.9	0.0	A
	Right Turn	20	23	115.0%	1.2	0.0	A
	Subtotal	**450**	**448**	**99.6%**	**4.5**	**0.0**	**A**
SB	Left Turn	30	25	83.3%	16.3	0.0	B
	Through	790	707	89.5%	4.8	0.0	A
	Right Turn	40	34	85.0%	1.2	0.0	A
	Subtotal	**860**	**766**	**89.1%**	**5.0**	**0.0**	**A**
EB	Left Turn	20	17	85.0%	17.8	0.0	B
	Through	10	10	100.0%	14.8	0.0	B
	Right Turn	20	18	90.0%	6.3	0.0	A
	Subtotal	**50**	**45**	**90.0%**	**12.5**	**0.0**	**B**
WB	Left Turn	30	26	86.7%	17.7	0.0	B
	Through	10	8	80.0%	15.6	0.0	B
	Right Turn	40	35	87.5%	4.7	0.0	A
	Subtotal	**80**	**69**	**86.3%**	**10.9**	**0.0**	**B**
Total		**1,440**	**1,328**	**92.2%**	**5.4**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 32 **Coffee Road/Frontage Road (N)** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	9	90.0%	4.8	0.0	A
	Through	210	189	90.0%	1.8	0.0	A
	Right Turn	10	9	90.0%	1.3	0.0	A
	Subtotal	**230**	**207**	**90.0%**	**1.9**	**0.0**	**A**
SB	Left Turn	10	10	100.0%	1.4	0.0	A
	Through	520	475	91.3%	0.6	0.0	A
	Right Turn	10	10	100.0%	1.6	0.0	A
	Subtotal	**540**	**495**	**91.7%**	**0.6**	**0.0**	**A**
EB	Left Turn	10	9	90.0%	8.7	0.0	A
	Through	10	8	80.0%	12.4	0.0	B
	Right Turn	10	10	100.0%	4.1	0.0	A
	Subtotal	**30**	**27**	**90.0%**	**8.1**	**0.0**	**A**
WB	Left Turn	20	15	75.0%	10.4	0.0	B
	Through	10	10	100.0%	9.6	0.0	A
	Right Turn	10	12	120.0%	2.7	0.0	A
	Subtotal	**40**	**37**	**92.5%**	**7.7**	**0.0**	**A**
Total		**840**	**766**	**91.2%**	**1.6**	**0.0**	**A**

Intersection 33 **Coffee Road/Frontage Road (S)** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	9	90.0%	3.6	0.0	A
	Through	560	505	90.2%	0.5	0.0	A
	Right Turn	10	10	100.0%	0.1	0.0	A
	Subtotal	**580**	**524**	**90.3%**	**0.5**	**0.0**	**A**
SB	Left Turn	20	19	95.0%	6.3	0.0	A
	Through	580	526	90.7%	2.5	0.0	A
	Right Turn	20	19	95.0%	2.4	0.0	A
	Subtotal	**620**	**564**	**91.0%**	**2.6**	**0.0**	**A**
EB	Left Turn	20	17	85.0%	20.1	0.0	C
	Through	10	10	100.0%	15.3	0.0	B
	Right Turn	10	10	100.0%	3.8	0.0	A
	Subtotal	**40**	**37**	**92.5%**	**14.4**	**0.0**	**B**
WB	Left Turn	10	8	80.0%	15.5	0.0	B
	Through	10	9	90.0%	16.7	0.0	B
	Right Turn	20	19	95.0%	5.3	0.0	A
	Subtotal	**40**	**36**	**90.0%**	**10.4**	**0.0**	**B**
Total		**1,280**	**1,161**	**90.7%**	**2.3**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 34 **Oakdale Road/Frontage Road (S)** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	9	90.0%	5.5	0.0	A
	Through	770	697	90.5%	0.8	0.0	A
	Right Turn	10	8	80.0%	0.3	0.0	A
	Subtotal	**790**	**714**	**90.4%**	**0.9**	**0.0**	**A**
SB	Left Turn	10	7	70.0%	6.8	0.0	A
	Through	730	655	89.7%	2.8	0.0	A
	Right Turn	10	9	90.0%	1.8	0.0	A
	Subtotal	**750**	**671**	**89.5%**	**2.8**	**0.0**	**A**
EB	Left Turn	30	25	83.3%	39.2	0.0	D
	Through	10	9	90.0%	22.7	0.0	C
	Right Turn	30	26	86.7%	6.8	0.0	A
	Subtotal	**70**	**60**	**85.7%**	**22.7**	**0.0**	**C**
WB	Left Turn	20	18	90.0%	21.7	0.0	C
	Through	10	10	100.0%	32.3	0.0	C
	Right Turn	20	20	100.0%	10.5	0.0	B
	Subtotal	**50**	**48**	**96.0%**	**19.2**	**0.0**	**B**
Total		**1,660**	**1,493**	**89.9%**	**3.2**	**0.0**	**A**

Intersection 35 **Roselle Ave/Frontage Road (S)** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	500	447	89.4%	4.1	0.0	A
	Right Turn	10	11	110.0%	1.7	0.0	A
	Subtotal	**510**	**458**	**89.8%**	**4.0**	**0.0**	**A**
SB	Left Turn	20	16	80.0%	13.9	0.0	B
	Through	640	585	91.4%	5.1	0.0	A
	Right Turn						
	Subtotal	**660**	**601**	**91.1%**	**5.3**	**0.0**	**A**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	20	18	90.0%	11.9	0.0	B
	Through						
	Right Turn	100	88	88.0%	4.9	0.0	A
	Subtotal	**120**	**106**	**88.3%**	**6.1**	**0.0**	**A**
Total		**1,290**	**1,165**	**90.3%**	**4.9**	**0.0**	**A**

Intersection 36 **Claribel Realigned (N)/** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	9	90.0%	1.9	0.0	A
	Through	60	50	83.3%	0.3	0.0	A
	Right Turn	10	8	80.0%	0.1	0.0	A
	Subtotal	**80**	**67**	**83.8%**	**0.5**	**0.0**	**A**
SB	Left Turn	10	7	70.0%	2.5	0.0	A
	Through	40	38	95.0%	0.8	0.0	A
	Right Turn	10	9	90.0%	0.7	0.0	A
	Subtotal	**60**	**54**	**90.0%**	**1.0**	**0.0**	**A**
EB	Left Turn	10	8	80.0%	4.9	0.0	A
	Through	10	8	80.0%	5.9	0.0	A
	Right Turn	10	9	90.0%	2.7	0.0	A
	Subtotal	**30**	**25**	**83.3%**	**4.4**	**0.0**	**A**
WB	Left Turn	10	8	80.0%	4.9	0.0	A
	Through	10	9	90.0%	6.1	0.0	A
	Right Turn	10	11	110.0%	3.0	0.0	A
	Subtotal	**30**	**28**	**93.3%**	**4.5**	**0.0**	**A**
Total		**200**	**174**	**87.0%**	**1.9**	**0.0**	**A**

Intersection 37 **Claus Road/Claribel Realigned (N)** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	7	70.0%	13.7	0.0	B
	Through	190	169	88.9%	7.0	0.0	A
	Right Turn	100	86	86.0%	4.8	0.0	A
	Subtotal	**300**	**262**	**87.3%**	**6.5**	**0.0**	**A**
SB	Left Turn	20	17	85.0%	12.9	0.0	B
	Through	330	298	90.3%	5.0	0.0	A
	Right Turn	40	38	95.0%	2.5	0.0	A
	Subtotal	**390**	**353**	**90.5%**	**5.1**	**0.0**	**A**
EB	Left Turn	30	25	83.3%	10.9	0.0	B
	Through	10	10	100.0%	8.7	0.0	A
	Right Turn	40	35	87.5%	3.4	0.0	A
	Subtotal	**80**	**70**	**87.5%**	**6.8**	**0.0**	**A**
WB	Left Turn	80	75	93.8%	9.5	0.0	A
	Through	10	9	90.0%	10.3	0.0	B
	Right Turn	10	9	90.0%	4.5	0.0	A
	Subtotal	**100**	**93**	**93.0%**	**9.1**	**0.0**	**A**
Total		**870**	**778**	**89.4%**	**6.2**	**0.0**	**A**

Intersection 38 **Claus Road/Claribel Realigned (S)** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	370	338	91.4%	8.0	0.0	A
	Right Turn	30	26	86.7%	2.7	0.0	A
	Subtotal	**400**	**364**	**91.0%**	**7.6**	**0.0**	**A**
SB	Left Turn	90	77	85.6%	14.0	0.0	B
	Through	460	422	91.7%	5.5	0.0	A
	Right Turn						
	Subtotal	**550**	**499**	**90.7%**	**6.8**	**0.0**	**A**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	60	49	81.7%	12.2	0.0	B
	Through						
	Right Turn	200	173	86.5%	5.1	0.0	A
	Subtotal	**260**	**222**	**85.4%**	**6.7**	**0.0**	**A**
Total		**1,210**	**1,085**	**89.7%**	**7.1**	**0.0**	**A**

Intersection 39 **Sterns/Sterns Connection** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	10	10	100.0%	1.0	0.0	A
	Right Turn	20	20	100.0%	0.1	0.0	A
	Subtotal	**30**	**30**	**100.0%**	**0.4**	**0.0**	**A**
SB	Left Turn	160	143	89.4%	1.7	0.0	A
	Through	10	9	90.0%	0.8	0.0	A
	Right Turn						
	Subtotal	**170**	**152**	**89.4%**	**1.6**	**0.0**	**A**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	20	17	85.0%	6.5	0.0	A
	Through						
	Right Turn	160	151	94.4%	3.6	0.0	A
	Subtotal	**180**	**168**	**93.3%**	**3.9**	**0.0**	**A**
Total		**380**	**350**	**92.1%**	**2.6**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	111	206	236	0	0
	Through	2,428	33	92	133	0	0
	Right Turn	2,428	33	92	133	0	0
SB	Left Turn	300	17	48	64	0	0
	Through	2,373	85	159	190	0	0
	Right Turn	2,373	85	159	190	0	0
EB	Left Turn	530	35	80	102	0	0
	Through	3,295	108	178	202	0	0
	Right Turn	410	47	86	106	0	0
WB	Left Turn	580	125	219	278	0	0
	Through	2,518	137	224	254	0	0
	Right Turn	530	20	55	76	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	23	48	66	0	0
	Through	923	23	49	59	0	0
	Right Turn						
SB	Left Turn	550	20	53	74	0	0
	Through	3,946	30	61	76	0	0
	Right Turn	3,946	23	58	82	0	0
EB	Left Turn	715	25	65	84	0	0
	Through	2,518	78	147	175	0	0
	Right Turn	355	64	127	161	0	0
WB	Left Turn	920	102	162	184	0	0
	Through	2,590	107	194	238	0	0
	Right Turn	750	7	29	44	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	24	63	85	0	0
	Through	464	92	156	172	0	0
	Right Turn	464	86	148	166	0	0
SB	Left Turn	290	61	126	157	0	0
	Through	5,159	128	231	262	0	0
	Right Turn	5,159	165	282	313	0	0
EB	Left Turn	250	95	162	194	0	0
	Through	5,459	44	99	132	0	0
	Right Turn	5,459	44	99	132	0	0
WB	Left Turn	90	13	56	85	0	0
	Through	491	222	373	434	36	0
	Right Turn	160	86	**215**	**220**	0	0

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	72	132	150	0	0
	Right Turn						
SB	Left Turn						
	Through	464	85	184	213	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	105	184	223	0	0
	Through						
	Right Turn	672	105	184	223	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	16	40	53	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	51	113	143	0	0
	Right Turn	491	51	113	143	0	0
WB	Left Turn	530	85	147	183	0	0
	Through	3,699	1	14	21	0	0
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	48	98	117	0	0
	Through	737	52	96	118	0	0
	Right Turn	737	20	54	69	0	0
SB	Left Turn	550	25	66	92	0	0
	Through	1,039	77	143	175	0	0
	Right Turn	650	56	109	148	0	0
EB	Left Turn	300	16	45	60	0	0
	Through						
	Right Turn	1,092	57	111	130	0	0
WB	Left Turn	300	55	98	114	0	0
	Through						
	Right Turn	1,084	104	187	238	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	92	159	193	0	0
	Through	3,853	146	221	249	1	0
	Right Turn	200	47	98	130	0	0
SB	Left Turn	500	67	124	148	0	0
	Through	1,480	178	260	290	0	0
	Right Turn	1,480	110	199	225	0	0
EB	Left Turn	350	98	151	168	0	0
	Through	4,930	114	169	195	0	0
	Right Turn	350	51	90	113	0	0
WB	Left Turn	300	174	123	134	0	0
	Through	6,010	176	256	288	0	0
	Right Turn	350	99	203	240	0	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	650	102	176	205	0	0
	Through	918	18	52	77	0	0
	Right Turn	650	15	42	55	0	0
SB	Left Turn	650	15	44	62	0	0
	Through	952	54	100	122	0	0
	Right Turn	650	63	115	144	0	0
EB	Left Turn	500	14	41	58	0	0
	Through						
	Right Turn	860	26	70	104	0	0
WB	Left Turn	880	74	121	138	0	0
	Through						
	Right Turn	880	18	52	67	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	146	222	256	0	0
	Through	1,262	89	160	183	0	0
	Right Turn	1,262	69	133	163	0	0
SB	Left Turn	300	26	63	84	0	0
	Through	1,262	142	212	236	0	0
	Right Turn	300	64	113	138	0	0
EB	Left Turn	300	69	121	141	0	0
	Through	1,409	98	167	187	0	0
	Right Turn	300	42	84	103	0	0
WB	Left Turn	300	52	105	135	0	0
	Through	3,308	147	210	226	0	0
	Right Turn	3,308	89	175	194	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	94	167	194	0	0
	Through	2,570	41	91	110	0	0
	Right Turn	2,570	57	111	129	0	0
SB	Left Turn	150	44	95	118	0	0
	Through	2,170	49	104	132	5	0
	Right Turn	75	49	**95**	**121**	1	0
EB	Left Turn	525	25	65	86	0	0
	Through	2,722	39	76	98	0	0
	Right Turn	2,722	31	73	84	0	0
WB	Left Turn	625	62	106	122	0	0
	Through	3,227	61	121	142	0	0
	Right Turn	3,227	76	146	172	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	30	74	94	0	0
	Through	1,181	54	101	134	0	0
	Right Turn	1,181	60	105	136	0	0
SB	Left Turn	315	31	73	96	0	0
	Through	3,988	77	155	220	0	0
	Right Turn	3,988	124	211	250	0	0
EB	Left Turn	410	49	106	137	0	0
	Through	1,731	25	64	89	0	0
	Right Turn	1,731	37	72	96	0	0
WB	Left Turn	1,878	138	226	266	0	0
	Through	1,878	7	28	42	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	179	257	286	0	0
	Through	2,052	63	109	124	0	0
	Right Turn	2,052	38	87	111	0	0
SB	Left Turn	300	10	36	52	0	0
	Through	480	206	304	334	1	0
	Right Turn	300	60	109	143	0	0
EB	Left Turn	1,375	83	142	165	0	0
	Through	1,375	35	74	92	0	0
	Right Turn						
WB	Left Turn	300	12	40	57	0	0
	Through	1,274	73	121	150	0	0
	Right Turn	300	9	34	53	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	39	98	140	0	0
	Through	1,227	152	272	329	1	0
	Right Turn	1,227	152	272	329	1	0
SB	Left Turn	175	85	165	**207**	1	0
	Through	1,669	91	198	272	7	0
	Right Turn	100	73	**139**	**160**	1	0
EB	Left Turn	3,220	74	148	200	0	0
	Through	3,220	39	92	127	0	0
	Right Turn	3,220	39	92	127	0	0
WB	Left Turn	75	22	72	**113**	0	0
	Through	3,356	113	217	267	22	0
	Right Turn	150	65	146	**177**	0	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	6	29	44	0	0
	Through	1,058	0	5	9	0	0
	Right Turn	1,058	0	5	6	0	0
SB	Left Turn	300	7	33	52	0	0
	Through	414	1	8	16	0	0
	Right Turn	414	1	7	14	0	0
EB	Left Turn	300	23	56	65	0	0
	Through	1,163	35	71	81	0	0
	Right Turn	300	51	89	109	0	0
WB	Left Turn	300	7	29	47	0	0
	Through	1,019	28	61	80	0	0
	Right Turn	300	16	41	54	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	32	65	79	0	0
	Through						
	Right Turn	150	7	25	29	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	31	66	77	0	0
	Right Turn	300	40	71	83	0	0
WB	Left Turn	400	30	66	84	0	0
	Through	873	16	50	67	0	0
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,090	78	129	144	0	0
	Through	1,090	31	71	85	0	0
	Right Turn	1,000	67	130	154	0	0
SB	Left Turn	520	28	57	71	0	0
	Through	1,217	51	94	111	0	0
	Right Turn	720	70	134	170	0	0
EB	Left Turn	800	61	106	127	0	0
	Through	1,066	143	225	246	0	0
	Right Turn	1,000	37	79	101	0	0
WB	Left Turn	1,590	69	117	140	0	0
	Through	1,590	102	169	203	0	0
	Right Turn	850	8	26	46	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	9	33	44	0	0
	Through	1,487	18	50	61	0	0
	Right Turn	1,487	18	50	61	0	0
SB	Left Turn	797	28	59	73	0	0
	Through	797	28	59	73	0	0
	Right Turn	300	8	29	37	0	0
EB	Left Turn	300	12	42	60	0	0
	Through						
	Right Turn						
WB	Left Turn	300	0	4	5	0	0
	Through						
	Right Turn						

Intersection 18 **Bentley Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,498	20	48	53	3	0
	Through	1,498	20	48	53	3	0
	Right Turn	20	9	**37**	**58**	1	0
SB	Left Turn	1,216	25	55	65	4	0
	Through	1,216	25	55	65	4	0
	Right Turn	20	17	**48**	**59**	1	0
EB	Left Turn	2,720	2	13	25	0	0
	Through	2,720	2	13	25	0	0
	Right Turn	2,720	2	13	25	0	0
WB	Left Turn	2,487	2	14	33	0	0
	Through	2,487	2	14	33	0	0
	Right Turn	2,487	2	14	33	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	44	84	101	0	0
	Through	1,264	37	76	102	0	0
	Right Turn	1,264	37	76	102	0	0
SB	Left Turn	100	46	84	99	1	0
	Through	1,626	27	61	77	0	0
	Right Turn	75	42	71	**85**	0	0
EB	Left Turn	250	35	70	85	0	0
	Through	1,565	43	91	112	0	0
	Right Turn	1,565	54	108	131	0	0
WB	Left Turn	250	29	66	79	0	0
	Through	2,560	74	127	143	0	0
	Right Turn	300	41	81	98	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	133	215	243	0	0
	Through	1,934	135	213	247	0	0
	Right Turn	300	29	71	92	0	0
SB	Left Turn	5,862	221	341	391	0	0
	Through	5,862	221	341	391	0	0
	Right Turn	5,862	190	304	346	0	0
EB	Left Turn	50	**82**	**124**	**109**	41	0
	Through	2,671	107	219	280	21	0
	Right Turn	200	107	195	**237**	0	0
WB	Left Turn	300	8	32	56	0	0
	Through	2,545	103	189	224	0	0
	Right Turn	2,545	77	140	177	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	83	133	163	0	0
	Through	1,873	52	104	130	10	0
	Right Turn	50	37	**83**	**107**	1	0
SB	Left Turn	100	26	61	81	0	0
	Through	2,914	76	138	164	4	0
	Right Turn	100	45	86	**115**	0	0
EB	Left Turn	250	30	68	88	0	0
	Through	1,994	53	102	129	0	0
	Right Turn	1,994	60	122	149	0	0
WB	Left Turn	200	74	134	164	0	0
	Through	2,690	32	72	96	0	0
	Right Turn	2,690	32	77	99	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	17	51	74	0	0
	Through	1,498	118	202	235	0	0
	Right Turn	300	95	184	229	0	0
SB	Left Turn	400	57	112	141	0	0
	Through	2,124	66	141	171	0	0
	Right Turn	2,124	84	161	189	0	0
EB	Left Turn	225	26	62	80	0	0
	Through	5,602	26	69	100	0	0
	Right Turn	225	19	51	64	0	0
WB	Left Turn	225	8	31	43	0	0
	Through	2,237	49	101	129	0	0
	Right Turn	225	67	118	152	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	44	96	122	0	0
	Through	1,326	81	150	188	0	0
	Right Turn	1,326	49	113	163	0	0
SB	Left Turn	350	10	41	63	0	0
	Through	1,404	122	204	252	0	0
	Right Turn	350	15	45	58	0	0
EB	Left Turn	225	24	59	87	0	0
	Through	1,997	23	62	93	0	0
	Right Turn	225	16	41	56	0	0
WB	Left Turn	175	26	61	75	0	0
	Through	2,609	93	161	198	1	0
	Right Turn	2,609	93	161	198	1	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	22	55	66	0	0
	Through	1,357	42	88	108	0	0
	Right Turn	700	66	115	140	0	0
SB	Left Turn	600	16	44	59	0	0
	Through	1,181	57	110	135	0	0
	Right Turn	600	62	109	137	0	0
EB	Left Turn	500	26	62	78	0	0
	Through						
	Right Turn	500	26	68	91	0	0
WB	Left Turn	500	45	81	94	0	0
	Through						
	Right Turn	350	26	69	91	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 25 **Roselle & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	60	116	144	0	0
	Through	671	31	77	113	0	0
	Right Turn	400	19	55	86	0	0
SB	Left Turn	550	22	60	85	0	0
	Through	1,058	46	91	114	0	0
	Right Turn	550	4	22	51	0	0
EB	Left Turn	500	3	16	31	0	0
	Through						
	Right Turn	1,221	51	99	118	0	0
WB	Left Turn	1,142	47	82	99	0	0
	Through						
	Right Turn	1,142	26	64	85	0	0

Intersection 26 **Crane Rd & NCC** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	150	7	26	42	0	0
	Through	914	17	52	77	0	0
	Right Turn	300	21	50	68	0	0
SB	Left Turn	275	23	58	78	0	0
	Through	2,750	17	48	72	0	0
	Right Turn	2,750	62	113	140	0	0
EB	Left Turn	1,599	101	163	180	0	0
	Through	1,599	46	107	138	0	0
	Right Turn	630	1	11	22	0	0
WB	Left Turn	930	26	70	95	0	0
	Through	1,340	58	114	135	0	0
	Right Turn	630	6	27	46	0	0

Intersection 27 **Albers Rd & NCC** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	9	32	45	0	0
	Through	2,124	116	200	241	1	0
	Right Turn	300	46	94	122	0	0
SB	Left Turn	200	9	33	49	0	0
	Through	2,188	87	144	162	0	0
	Right Turn	500	28	63	85	0	0
EB	Left Turn	1,587	130	207	244	0	0
	Through	1,587	27	63	88	0	0
	Right Turn	750	5	25	41	0	0
WB	Left Turn	720	65	117	148	0	0
	Through	4,484	48	92	106	0	0
	Right Turn	670	11	37	56	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	81	101.3%	30.8	0.0	C
	Through	90	92	102.2%	27.4	0.0	C
	Right Turn	100	100	100.0%	13.3	0.0	B
	Subtotal	**270**	**273**	**101.1%**	**23.2**	**0.0**	**C**
SB	Left Turn	60	53	88.3%	29.7	0.0	C
	Through	80	86	107.5%	27.0	0.0	C
	Right Turn	10	12	120.0%	15.2	0.0	B
	Subtotal	**150**	**151**	**100.7%**	**27.0**	**0.0**	**C**
EB	Left Turn	40	36	90.0%	34.2	0.0	C
	Through	1,040	1,046	100.6%	20.9	0.0	C
	Right Turn	150	145	96.7%	7.3	0.0	A
	Subtotal	**1,230**	**1,227**	**99.8%**	**19.7**	**0.0**	**B**
WB	Left Turn	130	126	96.9%	34.3	0.0	C
	Through	980	973	99.3%	16.9	0.0	B
	Right Turn	50	54	108.0%	8.0	0.0	A
	Subtotal	**1,160**	**1,153**	**99.4%**	**18.4**	**0.0**	**B**
Total		**2,810**	**2,804**	**99.8%**	**19.9**	**0.0**	**B**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	260	258	99.2%	25.1	0.0	C
	Through	160	154	96.3%	20.3	0.0	C
	Right Turn	460	476	103.5%	4.7	0.0	A
	Subtotal	**880**	**888**	**100.9%**	**13.3**	**0.0**	**B**
SB	Left Turn	60	57	95.0%	30.3	0.0	C
	Through	140	137	97.9%	27.7	0.0	C
	Right Turn	20	22	110.0%	7.9	0.0	A
	Subtotal	**220**	**216**	**98.2%**	**26.4**	**0.0**	**C**
EB	Left Turn	20	20	100.0%	35.4	0.0	D
	Through	1,010	1,012	100.2%	33.0	0.0	C
	Right Turn	170	171	100.6%	16.1	0.0	B
	Subtotal	**1,200**	**1,203**	**100.3%**	**30.6**	**0.0**	**C**
WB	Left Turn	350	363	103.7%	33.0	0.0	C
	Through	880	870	98.9%	11.1	0.0	B
	Right Turn	50	47	94.0%	3.0	0.0	A
	Subtotal	**1,280**	**1,280**	**100.0%**	**17.0**	**0.0**	**B**
Total		**3,580**	**3,587**	**100.2%**	**21.2**	**0.0**	**C**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	60	58	96.7%	45.8	0.0	D
	Through	370	369	99.7%	36.4	0.0	D
	Right Turn	10	11	110.0%	26.9	0.0	C
	Subtotal	**440**	**438**	**99.5%**	**37.4**	**0.0**	**D**
SB	Left Turn	270	267	98.9%	70.2	0.0	E
	Through	420	432	102.9%	30.7	0.0	C
	Right Turn	190	194	102.1%	23.3	0.0	C
	Subtotal	**880**	**893**	**101.5%**	**40.9**	**0.0**	**D**
EB	Left Turn	240	231	96.3%	70.5	0.0	E
	Through	170	174	102.4%	30.1	0.0	C
	Right Turn	20	23	115.0%	20.1	0.0	C
	Subtotal	**430**	**428**	**99.5%**	**51.4**	**0.0**	**D**
WB	Left Turn	10	9	90.0%	59.6	0.0	E
	Through	250	250	100.0%	37.9	0.0	D
	Right Turn	90	97	107.8%	8.5	0.0	A
	Subtotal	**350**	**356**	**101.7%**	**30.4**	**0.0**	**C**
Total		**2,100**	**2,115**	**100.7%**	**40.5**	**0.0**	**D**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	430	421	97.9%	7.4	0.0	A
	Right Turn	340	352	103.5%	1.0	0.0	A
	Subtotal	**770**	**773**	**100.4%**	**4.5**	**0.0**	**A**
SB	Left Turn						
	Through	450	461	102.4%	12.3	0.0	B
	Right Turn						
	Subtotal	**450**	**461**	**102.4%**	**12.3**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	130	125	96.2%	14.1	0.0	B
	Through	10	12	120.0%	4.8	0.0	A
	Right Turn						
	Subtotal	**140**	**137**	**97.9%**	**13.3**	**0.0**	**B**
Total		**1,360**	**1,371**	**100.8%**	**8.0**	**0.0**	**A**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	340	352	103.5%	7.2	0.0	A
	Subtotal	**340**	**352**	**103.5%**	**7.2**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	440	442	100.5%	21.8	0.0	C
	Right Turn	10	10	100.0%	8.1	0.0	A
	Subtotal	**450**	**452**	**100.4%**	**21.5**	**0.0**	**C**
WB	Left Turn	130	128	98.5%	20.5	0.0	C
	Through	350	356	101.7%	3.1	0.0	A
	Right Turn						
	Subtotal	**480**	**484**	**100.8%**	**7.7**	**0.0**	**A**
Total		**1,270**	**1,288**	**101.4%**	**12.4**	**0.0**	**B**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	130	130	100.0%	19.0	0.0	B
	Through	610	609	99.8%	11.6	0.0	B
	Right Turn	530	533	100.6%	5.7	0.0	A
	Subtotal	**1,270**	**1,272**	**100.2%**	**9.9**	**0.0**	**A**
SB	Left Turn	70	67	95.7%	19.7	0.0	B
	Through	480	493	102.7%	16.8	0.0	B
	Right Turn	150	155	103.3%	7.5	0.0	A
	Subtotal	**700**	**715**	**102.1%**	**15.1**	**0.0**	**B**
EB	Left Turn	200	202	101.0%	21.3	0.0	C
	Through						
	Right Turn	200	202	101.0%	21.6	0.0	C
	Subtotal	**400**	**404**	**101.0%**	**21.5**	**0.0**	**C**
WB	Left Turn	220	224	101.8%	21.2	0.0	C
	Through						
	Right Turn	170	168	98.8%	22.8	0.0	C
	Subtotal	**390**	**392**	**100.5%**	**21.9**	**0.0**	**C**
Total		**2,760**	**2,783**	**100.8%**	**14.6**	**0.0**	**B**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	290	290	100.0%	47.4	0.0	D
	Through	1,010	1,003	99.3%	37.7	0.0	D
	Right Turn	190	191	100.5%	15.8	0.0	B
	Subtotal	**1,490**	**1,484**	**99.6%**	**36.8**	**0.0**	**D**
SB	Left Turn	490	482	98.4%	44.3	0.0	D
	Through	930	924	99.4%	26.5	0.0	C
	Right Turn	230	229	99.6%	18.2	0.0	B
	Subtotal	**1,650**	**1,635**	**99.1%**	**30.6**	**0.0**	**C**
EB	Left Turn	270	268	99.3%	44.0	0.0	D
	Through	1,080	1,076	99.6%	67.0	0.0	E
	Right Turn	340	342	100.6%	20.5	0.0	C
	Subtotal	**1,690**	**1,686**	**99.8%**	**53.9**	**0.0**	**D**
WB	Left Turn	220	221	100.5%	46.5	0.0	D
	Through	590	594	100.7%	32.8	0.0	C
	Right Turn	160	165	103.1%	4.7	0.0	A
	Subtotal	**970**	**980**	**101.0%**	**31.2**	**0.0**	**C**
Total		**5,800**	**5,785**	**99.7%**	**39.1**	**0.0**	**D**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	220	224	101.8%	16.0	0.0	B
	Through	200	202	101.0%	5.9	0.0	A
	Right Turn	330	333	100.9%	3.9	0.0	A
	Subtotal	**750**	**759**	**101.2%**	**8.0**	**0.0**	**A**
SB	Left Turn	20	19	95.0%	31.7	0.0	C
	Through	170	168	98.8%	16.0	0.0	B
	Right Turn	150	141	94.0%	6.8	0.0	A
	Subtotal	**340**	**328**	**96.5%**	**13.0**	**0.0**	**B**
EB	Left Turn	300	301	100.3%	17.6	0.0	B
	Through						
	Right Turn	170	171	100.6%	14.3	0.0	B
	Subtotal	**470**	**472**	**100.4%**	**16.4**	**0.0**	**B**
WB	Left Turn	230	225	97.8%	15.5	0.0	B
	Through						
	Right Turn	20	23	115.0%	24.9	0.0	C
	Subtotal	**250**	**248**	**99.2%**	**16.4**	**0.0**	**B**
Total		**1,810**	**1,807**	**99.8%**	**12.2**	**0.0**	**B**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	320	320	100.0%	32.6	0.0	C
	Through	420	427	101.7%	20.3	0.0	C
	Right Turn	70	68	97.1%	10.0	0.0	A
	Subtotal	**810**	**815**	**100.6%**	**24.3**	**0.0**	**C**
SB	Left Turn	70	69	98.6%	34.7	0.0	C
	Through	180	181	100.6%	25.2	0.0	C
	Right Turn	210	215	102.4%	8.0	0.0	A
	Subtotal	**460**	**465**	**101.1%**	**18.7**	**0.0**	**B**
EB	Left Turn	280	282	100.7%	33.6	0.0	C
	Through	930	927	99.7%	26.1	0.0	C
	Right Turn	480	479	99.8%	8.6	0.0	A
	Subtotal	**1,690**	**1,688**	**99.9%**	**22.4**	**0.0**	**C**
WB	Left Turn	90	91	101.1%	34.2	0.0	C
	Through	480	479	99.8%	24.3	0.0	C
	Right Turn	60	66	110.0%	8.3	0.0	A
	Subtotal	**630**	**636**	**101.0%**	**24.1**	**0.0**	**C**
Total		**3,590**	**3,604**	**100.4%**	**22.6**	**0.0**	**C**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	140	136	97.1%	42.8	0.0	D
	Through	70	73	104.3%	28.4	0.0	C
	Right Turn	190	197	103.7%	32.9	0.0	C
	Subtotal	**400**	**406**	**101.5%**	**35.4**	**0.0**	**D**
SB	Left Turn	50	48	96.0%	43.3	0.0	D
	Through	50	49	98.0%	39.8	0.0	D
	Right Turn	60	59	98.3%	6.3	0.0	A
	Subtotal	**160**	**156**	**97.5%**	**28.2**	**0.0**	**C**
EB	Left Turn	90	90	100.0%	45.4	0.0	D
	Through	600	599	99.8%	20.3	0.0	C
	Right Turn	110	109	99.1%	14.9	0.0	B
	Subtotal	**800**	**798**	**99.8%**	**22.4**	**0.0**	**C**
WB	Left Turn	300	302	100.7%	43.3	0.0	D
	Through	290	289	99.7%	15.3	0.0	B
	Right Turn	30	30	100.0%	9.0	0.0	A
	Subtotal	**620**	**621**	**100.2%**	**28.6**	**0.0**	**C**
Total		**1,980**	**1,981**	**100.1%**	**27.5**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	60	59	98.3%	36.9	0.0	D
	Through	470	459	97.7%	19.4	0.0	B
	Right Turn	380	380	100.0%	7.6	0.0	A
	Subtotal	**910**	**898**	**98.7%**	**15.6**	**0.0**	**B**
SB	Left Turn	60	57	95.0%	36.8	0.0	D
	Through	450	445	98.9%	19.7	0.0	B
	Right Turn	40	42	105.0%	13.5	0.0	B
	Subtotal	**550**	**544**	**98.9%**	**21.0**	**0.0**	**C**
EB	Left Turn	80	80	100.0%	24.1	0.0	C
	Through	20	18	90.0%	38.6	0.0	D
	Right Turn	100	98	98.0%	7.2	0.0	A
	Subtotal	**200**	**196**	**98.0%**	**17.0**	**0.0**	**B**
WB	Left Turn	370	376	101.6%	27.4	0.0	C
	Through	10	8	80.0%	44.0	0.0	D
	Right Turn	40	40	100.0%	3.5	0.0	A
	Subtotal	**420**	**424**	**101.0%**	**25.5**	**0.0**	**C**
Total		**2,080**	**2,062**	**99.1%**	**19.2**	**0.0**	**B**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	330	319	96.7%	29.0	0.0	C
	Through	670	665	99.3%	11.8	0.0	B
	Right Turn	40	42	105.0%	6.0	0.0	A
	Subtotal	**1,040**	**1,026**	**98.7%**	**16.9**	**0.0**	**B**
SB	Left Turn	10	10	100.0%	35.1	0.0	D
	Through	580	575	99.1%	25.7	0.0	C
	Right Turn	150	148	98.7%	4.6	0.0	A
	Subtotal	**740**	**733**	**99.1%**	**21.6**	**0.0**	**C**
EB	Left Turn	170	163	95.9%	36.2	0.0	D
	Through	300	309	103.0%	21.4	0.0	C
	Right Turn	690	708	102.6%	5.3	0.0	A
	Subtotal	**1,160**	**1,180**	**101.7%**	**13.8**	**0.0**	**B**
WB	Left Turn	20	18	90.0%	33.7	0.0	C
	Through	190	192	101.1%	28.6	0.0	C
	Right Turn	20	23	115.0%	4.3	0.0	A
	Subtotal	**230**	**233**	**101.3%**	**26.6**	**0.0**	**C**
Total		**3,170**	**3,172**	**100.1%**	**17.5**	**0.0**	**B**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	60	58	96.7%	28.9	0.0	C
	Through	220	212	96.4%	38.6	0.0	D
	Right Turn	30	30	100.0%	30.2	0.0	C
	Subtotal	**310**	**300**	**96.8%**	**35.9**	**0.0**	**D**
SB	Left Turn	220	221	100.5%	38.0	0.0	D
	Through	180	172	95.6%	35.5	0.0	D
	Right Turn	140	138	98.6%	9.3	0.0	A
	Subtotal	**540**	**531**	**98.3%**	**29.7**	**0.0**	**C**
EB	Left Turn	270	270	100.0%	39.3	0.0	D
	Through	340	336	98.8%	25.2	0.0	C
	Right Turn	30	34	113.3%	17.5	0.0	B
	Subtotal	**640**	**640**	**100.0%**	**30.7**	**0.0**	**C**
WB	Left Turn	30	28	93.3%	50.2	0.0	D
	Through	140	142	101.4%	36.0	0.0	D
	Right Turn	120	121	100.8%	11.2	0.0	B
	Subtotal	**290**	**291**	**100.3%**	**27.1**	**0.0**	**C**
Total		**1,780**	**1,762**	**99.0%**	**30.7**	**0.0**	**C**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	130	132	101.5%	6.5	0.0	A
	Through	360	356	98.9%	3.3	0.0	A
	Right Turn	30	33	110.0%	1.6	0.0	A
	Subtotal	**520**	**521**	**100.2%**	**4.0**	**0.0**	**A**
SB	Left Turn	30	32	106.7%	2.8	0.0	A
	Through	310	314	101.3%	0.7	0.0	A
	Right Turn	20	20	100.0%	0.3	0.0	A
	Subtotal	**360**	**366**	**101.7%**	**0.9**	**0.0**	**A**
EB	Left Turn	20	18	90.0%	17.4	0.0	B
	Through	40	37	92.5%	16.6	0.0	B
	Right Turn	70	73	104.3%	4.1	0.0	A
	Subtotal	**130**	**128**	**98.5%**	**9.6**	**0.0**	**A**
WB	Left Turn	20	16	80.0%	15.9	0.0	B
	Through	60	60	100.0%	16.5	0.0	B
	Right Turn	20	21	105.0%	2.5	0.0	A
	Subtotal	**100**	**97**	**97.0%**	**13.4**	**0.0**	**B**
Total		**1,110**	**1,112**	**100.2%**	**4.4**	**0.0**	**A**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	45	90.0%	9.9	0.0	A
	Through						
	Right Turn	60	63	105.0%	3.1	0.0	A
	Subtotal	**110**	**108**	**98.2%**	**5.9**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	450	457	101.6%	6.8	0.0	A
	Right Turn	170	177	104.1%	4.1	0.0	A
	Subtotal	**620**	**634**	**102.3%**	**6.0**	**0.0**	**A**
WB	Left Turn	30	30	100.0%	14.7	0.0	B
	Through	190	193	101.6%	3.5	0.0	A
	Right Turn						
	Subtotal	**220**	**223**	**101.4%**	**5.0**	**0.0**	**A**
Total		**950**	**965**	**101.6%**	**5.8**	**0.0**	**A**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	380	381	100.3%	46.4	0.0	D
	Through	130	128	98.5%	16.9	0.0	B
	Right Turn	320	328	102.5%	9.0	0.0	A
	Subtotal	**830**	**837**	**100.8%**	**27.2**	**0.0**	**C**
SB	Left Turn	30	27	90.0%	33.9	0.0	C
	Through	190	200	105.3%	36.3	0.0	D
	Right Turn	240	235	97.9%	12.1	0.0	B
	Subtotal	**460**	**462**	**100.4%**	**23.9**	**0.0**	**C**
EB	Left Turn	240	244	101.7%	36.5	0.0	D
	Through	830	836	100.7%	26.1	0.0	C
	Right Turn	330	327	99.1%	7.9	0.0	A
	Subtotal	**1,400**	**1,407**	**100.5%**	**23.7**	**0.0**	**C**
WB	Left Turn	380	385	101.3%	33.9	0.0	C
	Through	760	774	101.8%	22.6	0.0	C
	Right Turn	100	99	99.0%	4.1	0.0	A
	Subtotal	**1,240**	**1,258**	**101.5%**	**24.6**	**0.0**	**C**
Total		**3,930**	**3,964**	**100.9%**	**24.7**	**0.0**	**C**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	8	80.0%	6.6	0.0	A
	Through	10	9	90.0%	7.6	0.0	A
	Right Turn	10	12	120.0%	3.0	0.0	A
	Subtotal	**30**	**29**	**96.7%**	**5.4**	**0.0**	**A**
SB	Left Turn	40	42	105.0%	6.6	0.0	A
	Through	10	9	90.0%	9.8	0.0	A
	Right Turn	150	150	100.0%	4.1	0.0	A
	Subtotal	**200**	**201**	**100.5%**	**4.9**	**0.0**	**A**
EB	Left Turn	110	113	102.7%	1.9	0.0	A
	Through	120	124	103.3%	1.5	0.0	A
	Right Turn	10	11	110.0%	0.7	0.0	A
	Subtotal	**240**	**248**	**103.3%**	**1.6**	**0.0**	**A**
WB	Left Turn	10	8	80.0%	2.2	0.0	A
	Through	100	106	106.0%	2.3	0.0	A
	Right Turn	20	21	105.0%	1.0	0.0	A
	Subtotal	**130**	**135**	**103.8%**	**2.1**	**0.0**	**A**
Total		**600**	**613**	**102.2%**	**3.0**	**0.0**	**A**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	10	100.0%	5.5	0.0	A
	Through	30	29	96.7%	9.4	0.0	A
	Right Turn	10	12	120.0%	3.6	0.0	A
	Subtotal	**50**	**51**	**102.0%**	**7.3**	**0.0**	**A**
SB	Left Turn	20	22	110.0%	5.5	0.0	A
	Through	10	11	110.0%	9.6	0.0	A
	Right Turn	10	11	110.0%	2.6	0.0	A
	Subtotal	**40**	**44**	**110.0%**	**5.8**	**0.0**	**A**
EB	Left Turn	10	10	100.0%	3.3	0.0	A
	Through	210	217	103.3%	1.9	0.0	A
	Right Turn	20	22	110.0%	1.8	0.0	A
	Subtotal	**240**	**249**	**103.8%**	**1.9**	**0.0**	**A**
WB	Left Turn	30	29	96.7%	2.0	0.0	A
	Through	110	108	98.2%	1.5	0.0	A
	Right Turn	20	21	105.0%	0.4	0.0	A
	Subtotal	**160**	**158**	**98.8%**	**1.4**	**0.0**	**A**
Total		**490**	**502**	**102.4%**	**2.7**	**0.0**	**A**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	90	89	98.9%	18.6	0.0	B
	Through	50	50	100.0%	14.5	0.0	B
	Right Turn	60	60	100.0%	6.9	0.0	A
	Subtotal	**200**	**199**	**99.5%**	**14.0**	**0.0**	**B**
SB	Left Turn	90	92	102.2%	18.5	0.0	B
	Through	40	38	95.0%	13.2	0.0	B
	Right Turn	90	86	95.6%	4.8	0.0	A
	Subtotal	**220**	**216**	**98.2%**	**12.1**	**0.0**	**B**
EB	Left Turn	90	86	95.6%	22.2	0.0	C
	Through	510	517	101.4%	9.1	0.0	A
	Right Turn	40	39	97.5%	5.2	0.0	A
	Subtotal	**640**	**642**	**100.3%**	**10.6**	**0.0**	**B**
WB	Left Turn	30	31	103.3%	27.9	0.0	C
	Through	480	482	100.4%	13.8	0.0	B
	Right Turn	70	74	105.7%	7.1	0.0	A
	Subtotal	**580**	**587**	**101.2%**	**13.7**	**0.0**	**B**
Total		**1,640**	**1,644**	**100.2%**	**12.3**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	101	101.0%	34.7	0.0	C
	Through	420	404	96.2%	35.5	0.0	D
	Right Turn	30	30	100.0%	7.0	0.0	A
	Subtotal	**550**	**535**	**97.3%**	**33.8**	**0.0**	**C**
SB	Left Turn	310	307	99.0%	41.6	0.0	D
	Through	390	392	100.5%	36.0	0.0	D
	Right Turn	70	66	94.3%	28.4	0.0	C
	Subtotal	**770**	**765**	**99.4%**	**37.6**	**0.0**	**D**
EB	Left Turn	100	101	101.0%	56.6	0.0	E
	Through	280	284	101.4%	27.5	0.0	C
	Right Turn	50	49	98.0%	16.7	0.0	B
	Subtotal	**430**	**434**	**100.9%**	**33.1**	**0.0**	**C**
WB	Left Turn	20	19	95.0%	49.6	0.0	D
	Through	220	215	97.7%	34.5	0.0	C
	Right Turn	370	373	100.8%	12.5	0.0	B
	Subtotal	**610**	**607**	**99.5%**	**21.5**	**0.0**	**C**
Total		**2,360**	**2,341**	**99.2%**	**31.7**	**0.0**	**C**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	140	140	100.0%	27.2	0.0	C
	Through	150	140	93.3%	19.7	0.0	B
	Right Turn	170	172	101.2%	6.7	0.0	A
	Subtotal	**460**	**452**	**98.3%**	**17.1**	**0.0**	**B**
SB	Left Turn	50	48	96.0%	30.0	0.0	C
	Through	120	113	94.2%	24.8	0.0	C
	Right Turn	100	98	98.0%	8.2	0.0	A
	Subtotal	**270**	**259**	**95.9%**	**19.5**	**0.0**	**B**
EB	Left Turn	90	89	98.9%	27.1	0.0	C
	Through	200	196	98.0%	15.3	0.0	B
	Right Turn	160	165	103.1%	7.3	0.0	A
	Subtotal	**450**	**450**	**100.0%**	**14.7**	**0.0**	**B**
WB	Left Turn	110	112	101.8%	26.6	0.0	C
	Through	290	293	101.0%	15.4	0.0	B
	Right Turn	50	50	100.0%	7.4	0.0	A
	Subtotal	**450**	**455**	**101.1%**	**17.3**	**0.0**	**B**
Total		**1,630**	**1,616**	**99.1%**	**16.9**	**0.0**	**B**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	31	103.3%	33.5	0.0	C
	Through	470	468	99.6%	34.5	0.0	C
	Right Turn	10	11	110.0%	21.4	0.0	C
	Subtotal	**510**	**510**	**100.0%**	**34.2**	**0.0**	**C**
SB	Left Turn	340	332	97.6%	33.2	0.0	C
	Through	550	554	100.7%	16.7	0.0	B
	Right Turn	40	38	95.0%	11.6	0.0	B
	Subtotal	**930**	**924**	**99.4%**	**22.4**	**0.0**	**C**
EB	Left Turn	70	66	94.3%	32.4	0.0	C
	Through	100	97	97.0%	28.5	0.0	C
	Right Turn	10	12	120.0%	5.5	0.0	A
	Subtotal	**180**	**175**	**97.2%**	**28.4**	**0.0**	**C**
WB	Left Turn	10	8	80.0%	36.0	0.0	D
	Through	20	21	105.0%	27.8	0.0	C
	Right Turn	200	203	101.5%	7.7	0.0	A
	Subtotal	**230**	**232**	**100.9%**	**10.5**	**0.0**	**B**
Total		**1,850**	**1,841**	**99.5%**	**24.7**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	55	110.0%	27.2	0.0	C
	Through	570	549	96.3%	10.0	0.0	A
	Right Turn	30	30	100.0%	4.1	0.0	A
	Subtotal	**650**	**634**	**97.5%**	**11.2**	**0.0**	**B**
SB	Left Turn	10	9	90.0%	29.0	0.0	C
	Through	470	465	98.9%	13.2	0.0	B
	Right Turn	20	19	95.0%	5.5	0.0	A
	Subtotal	**500**	**493**	**98.6%**	**13.2**	**0.0**	**B**
EB	Left Turn	10	10	100.0%	29.0	0.0	C
	Through	130	134	103.1%	22.4	0.0	C
	Right Turn	100	109	109.0%	5.6	0.0	A
	Subtotal	**240**	**253**	**105.4%**	**15.4**	**0.0**	**B**
WB	Left Turn	20	21	105.0%	26.9	0.0	C
	Through	90	95	105.6%	20.0	0.0	B
	Right Turn	10	13	130.0%	9.1	0.0	A
	Subtotal	**120**	**129**	**107.5%**	**20.0**	**0.0**	**B**
Total		**1,510**	**1,509**	**99.9%**	**13.3**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	30	10	33.3%	19.6	0.0	B
	Through	390	429	110.0%	11.6	0.0	B
	Right Turn	400	214	53.5%	4.6	0.0	A
	Subtotal	**820**	**653**	**79.6%**	**9.4**	**0.0**	**A**
SB	Left Turn	30	48	160.0%	21.7	0.0	C
	Through	540	598	110.7%	13.1	0.0	B
	Right Turn	340	274	80.6%	6.6	0.0	A
	Subtotal	**910**	**920**	**101.1%**	**11.6**	**0.0**	**B**
EB	Left Turn	50	317	634.0%	19.7	0.0	B
	Through						
	Right Turn	30	116	386.7%	22.6	0.0	C
	Subtotal	**80**	**433**	**541.3%**	**20.5**	**0.0**	**C**
WB	Left Turn	180	218	121.1%	17.2	0.0	B
	Through						
	Right Turn	30	152	506.7%	21.7	0.0	C
	Subtotal	**210**	**370**	**176.2%**	**19.0**	**0.0**	**B**
Total		**2,020**	**2,376**	**117.6%**	**13.8**	**0.0**	**B**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	150	118	78.7%	14.1	0.0	B
	Through	260	405	155.8%	7.7	0.0	A
	Right Turn	190	216	113.7%	4.3	0.0	A
	Subtotal	**600**	**739**	**123.2%**	**7.7**	**0.0**	**A**
SB	Left Turn	40	47	117.5%	23.7	0.0	C
	Through	420	325	77.4%	14.1	0.0	B
	Right Turn	50	30	60.0%	4.3	0.0	A
	Subtotal	**510**	**402**	**78.8%**	**14.5**	**0.0**	**B**
EB	Left Turn	10	49	490.0%	17.8	0.0	B
	Through						
	Right Turn	90	250	277.8%	15.2	0.0	B
	Subtotal	**100**	**299**	**299.0%**	**15.6**	**0.0**	**B**
WB	Left Turn	150	113	75.3%	17.9	0.0	B
	Through						
	Right Turn	40	67	167.5%	20.4	0.0	C
	Subtotal	**190**	**180**	**94.7%**	**18.8**	**0.0**	**B**
Total		**1,400**	**1,620**	**115.7%**	**12.1**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	10	100.0%	33.4	0.0	C
	Through	30	40	133.3%	25.3	0.0	C
	Right Turn	80	71	88.8%	3.4	0.0	A
	Subtotal	**120**	**121**	**100.8%**	**13.1**	**0.0**	**B**
SB	Left Turn	30	26	86.7%	35.5	0.0	D
	Through	30	52	173.3%	24.4	0.0	C
	Right Turn	680	598	87.9%	6.5	0.0	A
	Subtotal	**740**	**676**	**91.4%**	**9.0**	**0.0**	**A**
EB	Left Turn	480	566	117.9%	19.3	0.0	B
	Through	680	595	87.5%	10.5	0.0	B
	Right Turn	10	20	200.0%	2.6	0.0	A
	Subtotal	**1,170**	**1,181**	**100.9%**	**14.6**	**0.0**	**B**
WB	Left Turn	40	141	352.5%	27.9	0.0	C
	Through	410	630	153.7%	21.3	0.0	C
	Right Turn	10	28	280.0%	5.2	0.0	A
	Subtotal	**460**	**799**	**173.7%**	**21.9**	**0.0**	**C**
Total		**2,490**	**2,777**	**111.5%**	**15.3**	**0.0**	**B**

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	9	90.0%	44.7	0.0	D
	Through	590	442	74.9%	24.7	0.0	C
	Right Turn	230	291	126.5%	11.1	0.0	B
	Subtotal	**830**	**742**	**89.4%**	**19.6**	**0.0**	**B**
SB	Left Turn	10	51	510.0%	36.1	0.0	D
	Through	400	612	153.0%	20.3	0.0	C
	Right Turn	280	599	213.9%	7.1	0.0	A
	Subtotal	**690**	**1,262**	**182.9%**	**14.7**	**0.0**	**B**
EB	Left Turn	570	452	79.3%	24.3	0.0	C
	Through	180	211	117.2%	20.0	0.0	B
	Right Turn	40	29	72.5%	4.3	0.0	A
	Subtotal	**790**	**692**	**87.6%**	**22.2**	**0.0**	**C**
WB	Left Turn	220	280	127.3%	27.0	0.0	C
	Through	210	200	95.2%	26.5	0.0	C
	Right Turn						
	Subtotal	**430**	**480**	**111.6%**	**26.8**	**0.0**	**C**
Total		**2,740**	**3,176**	**115.9%**	**19.3**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 28 **Sterns Connection/NCC** **Roundabout**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	9	90.0%	4.6	0.0	A
	Through	10	11	110.0%	4.5	0.0	A
	Right Turn	10	12	120.0%	2.7	0.0	A
	Subtotal	**30**	**32**	**106.7%**	**3.9**	**0.0**	**A**
SB	Left Turn	10	9	90.0%	3.0	0.0	A
	Through	10	10	100.0%	4.2	0.0	A
	Right Turn	160	221	138.1%	3.1	0.0	A
	Subtotal	**180**	**240**	**133.3%**	**3.1**	**0.0**	**A**
EB	Left Turn	160	218	136.3%	4.7	0.0	A
	Through	250	318	127.2%	8.2	0.0	A
	Right Turn	10	11	110.0%	4.6	0.0	A
	Subtotal	**420**	**547**	**130.2%**	**6.7**	**0.0**	**A**
WB	Left Turn	10	10	100.0%	3.5	0.0	A
	Through	260	249	95.8%	6.7	0.0	A
	Right Turn	10	13	130.0%	2.4	0.0	A
	Subtotal	**280**	**272**	**97.1%**	**6.4**	**0.0**	**A**
Total		**910**	**1,091**	**119.9%**	**5.8**	**0.0**	**A**

Intersection 29 **NCC/SR120/108** **Roundabout**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	27	270.0%	3.0	0.0	A
	Through	10	29	290.0%	6.3	0.0	A
	Right Turn	250	282	112.8%	4.2	0.0	A
	Subtotal	**270**	**338**	**125.2%**	**4.3**	**0.0**	**A**
SB	Left Turn	20	19	95.0%	5.9	0.0	A
	Through	20	21	105.0%	5.8	0.0	A
	Right Turn	100	30	30.0%	3.2	0.0	A
	Subtotal	**140**	**70**	**50.0%**	**4.7**	**0.0**	**A**
EB	Left Turn	20	95	475.0%	8.8	0.0	A
	Through	220	360	163.6%	11.9	0.0	B
	Right Turn	30	12	40.0%	1.8	0.0	A
	Subtotal	**270**	**467**	**173.0%**	**11.0**	**0.0**	**B**
WB	Left Turn	230	240	104.3%	5.2	0.0	A
	Through	430	345	80.2%	7.3	0.0	A
	Right Turn	10	12	120.0%	3.0	0.0	A
	Subtotal	**670**	**597**	**89.1%**	**6.4**	**0.0**	**A**
Total		**1,350**	**1,472**	**109.0%**	**7.3**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 30 **McHenry Ave/Charity Way** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	83	103.8%	18.8	0.0	B
	Through	410	881	214.9%	6.9	0.0	A
	Right Turn	10	18	180.0%	3.9	0.0	A
	Subtotal	**500**	**982**	**196.4%**	**7.9**	**0.0**	**A**
SB	Left Turn	10	17	170.0%	18.6	0.0	B
	Through	720	592	82.2%	7.4	0.0	A
	Right Turn	10	21	210.0%	3.3	0.0	A
	Subtotal	**740**	**630**	**85.1%**	**7.6**	**0.0**	**A**
EB	Left Turn	20	38	190.0%	17.2	0.0	B
	Through	10	9	90.0%	15.3	0.0	B
	Right Turn	20	103	515.0%	4.7	0.0	A
	Subtotal	**50**	**150**	**300.0%**	**8.5**	**0.0**	**A**
WB	Left Turn	10	21	210.0%	16.1	0.0	B
	Through	10	18	180.0%	14.9	0.0	B
	Right Turn	10	22	220.0%	5.0	0.0	A
	Subtotal	**30**	**61**	**203.3%**	**11.7**	**0.0**	**B**
Total		**1,320**	**1,823**	**138.1%**	**7.9**	**0.0**	**A**

Intersection 31 **McHenry Ave/Galaxy Way** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	30	39	130.0%	26.7	0.0	C
	Through	400	1,130	282.5%	9.3	0.0	A
	Right Turn	20	38	190.0%	3.1	0.0	A
	Subtotal	**450**	**1,207**	**268.2%**	**9.7**	**0.0**	**A**
SB	Left Turn	30	63	210.0%	26.1	0.0	C
	Through	790	794	100.5%	6.7	0.0	A
	Right Turn	40	62	155.0%	1.7	0.0	A
	Subtotal	**860**	**919**	**106.9%**	**7.7**	**0.0**	**A**
EB	Left Turn	20	78	390.0%	25.9	0.0	C
	Through	10	12	120.0%	23.9	0.0	C
	Right Turn	20	72	360.0%	9.1	0.0	A
	Subtotal	**50**	**162**	**324.0%**	**18.3**	**0.0**	**B**
WB	Left Turn	30	38	126.7%	25.5	0.0	C
	Through	10	9	90.0%	28.9	0.0	C
	Right Turn	40	61	152.5%	13.1	0.0	B
	Subtotal	**80**	**108**	**135.0%**	**18.8**	**0.0**	**B**
Total		**1,440**	**2,396**	**166.4%**	**9.9**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 32 **Coffee Road/Frontage Road (N)** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	8	80.0%	3.4	0.0	A
	Through	210	495	235.7%	1.7	0.0	A
	Right Turn	10	23	230.0%	1.8	0.0	A
	Subtotal	**230**	**526**	**228.7%**	**1.7**	**0.0**	**A**
SB	Left Turn	10	9	90.0%	2.5	0.0	A
	Through	520	300	57.7%	0.3	0.0	A
	Right Turn	10	10	100.0%	1.5	0.0	A
	Subtotal	**540**	**319**	**59.1%**	**0.4**	**0.0**	**A**
EB	Left Turn	10	10	100.0%	7.9	0.0	A
	Through	10	10	100.0%	12.2	0.0	B
	Right Turn	10	9	90.0%	3.5	0.0	A
	Subtotal	**30**	**29**	**96.7%**	**8.0**	**0.0**	**A**
WB	Left Turn	20	19	95.0%	12.0	0.0	B
	Through	10	10	100.0%	11.7	0.0	B
	Right Turn	10	11	110.0%	3.9	0.0	A
	Subtotal	**40**	**40**	**100.0%**	**9.7**	**0.0**	**A**
Total		**840**	**914**	**108.8%**	**1.8**	**0.0**	**A**

Intersection 33 **Coffee Road/Frontage Road (S)** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	10	100.0%	2.6	0.0	A
	Through	560	715	127.7%	0.8	0.0	A
	Right Turn	10	11	110.0%	1.9	0.0	A
	Subtotal	**580**	**736**	**126.9%**	**0.8**	**0.0**	**A**
SB	Left Turn	20	18	90.0%	6.9	0.0	A
	Through	580	526	90.7%	2.0	0.0	A
	Right Turn	20	20	100.0%	1.7	0.0	A
	Subtotal	**620**	**564**	**91.0%**	**2.1**	**0.0**	**A**
EB	Left Turn	20	21	105.0%	30.2	0.0	C
	Through	10	11	110.0%	18.9	0.0	B
	Right Turn	10	11	110.0%	4.5	0.0	A
	Subtotal	**40**	**43**	**107.5%**	**20.7**	**0.0**	**C**
WB	Left Turn	10	11	110.0%	19.5	0.0	B
	Through	10	10	100.0%	26.1	0.0	C
	Right Turn	20	22	110.0%	7.3	0.0	A
	Subtotal	**40**	**43**	**107.5%**	**14.8**	**0.0**	**B**
Total		**1,280**	**1,386**	**108.3%**	**2.4**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 34 **Oakdale Road/Frontage Road (S)** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	21	210.0%	6.2	0.0	A
	Through	770	620	80.5%	0.7	0.0	A
	Right Turn	10	23	230.0%	0.4	0.0	A
	Subtotal	**790**	**664**	**84.1%**	**0.9**	**0.0**	**A**
SB	Left Turn	10	38	380.0%	6.7	0.0	A
	Through	730	851	116.6%	3.3	0.0	A
	Right Turn	10	44	440.0%	2.3	0.0	A
	Subtotal	**750**	**933**	**124.4%**	**3.4**	**0.0**	**A**
EB	Left Turn	30	18	60.0%	31.1	0.0	C
	Through	10	10	100.0%	21.1	0.0	C
	Right Turn	30	23	76.7%	6.6	0.0	A
	Subtotal	**70**	**51**	**72.9%**	**18.1**	**0.0**	**B**
WB	Left Turn	20	8	40.0%	19.0	0.0	B
	Through	10	10	100.0%	28.1	0.0	C
	Right Turn	20	12	60.0%	9.5	0.0	A
	Subtotal	**50**	**30**	**60.0%**	**18.2**	**0.0**	**B**
Total		**1,660**	**1,678**	**101.1%**	**3.1**	**0.0**	**A**

Intersection 35 **Roselle Ave/Frontage Road (S)** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	500	701	140.2%	5.0	0.0	A
	Right Turn	10	41	410.0%	2.1	0.0	A
	Subtotal	**510**	**742**	**145.5%**	**4.8**	**0.0**	**A**
SB	Left Turn	20	38	190.0%	14.2	0.0	B
	Through	640	648	101.3%	4.1	0.0	A
	Right Turn						
	Subtotal	**660**	**686**	**103.9%**	**4.7**	**0.0**	**A**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	20	39	195.0%	15.3	0.0	B
	Through						
	Right Turn	100	41	41.0%	5.2	0.0	A
	Subtotal	**120**	**80**	**66.7%**	**10.1**	**0.0**	**B**
Total		**1,290**	**1,508**	**116.9%**	**5.0**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 36 **Claribel Realigned (N)/** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	9	90.0%	2.0	0.0	A
	Through	60	61	101.7%	0.3	0.0	A
	Right Turn	10	11	110.0%	0.2	0.0	A
	Subtotal	**80**	**81**	**101.3%**	**0.5**	**0.0**	**A**
SB	Left Turn	10	11	110.0%	2.4	0.0	A
	Through	40	57	142.5%	1.0	0.0	A
	Right Turn	10	11	110.0%	0.7	0.0	A
	Subtotal	**60**	**79**	**131.7%**	**1.2**	**0.0**	**A**
EB	Left Turn	10	10	100.0%	4.5	0.0	A
	Through	10	10	100.0%	5.9	0.0	A
	Right Turn	10	11	110.0%	2.9	0.0	A
	Subtotal	**30**	**31**	**103.3%**	**4.4**	**0.0**	**A**
WB	Left Turn	10	9	90.0%	5.0	0.0	A
	Through	10	12	120.0%	6.3	0.0	A
	Right Turn	10	10	100.0%	2.6	0.0	A
	Subtotal	**30**	**31**	**103.3%**	**4.7**	**0.0**	**A**
Total		**200**	**222**	**111.0%**	**1.9**	**0.0**	**A**

Intersection 37 **Claus Road/Claribel Realigned (N)** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	29	290.0%	21.4	0.0	C
	Through	190	415	218.4%	10.3	0.0	B
	Right Turn	100	28	28.0%	6.7	0.0	A
	Subtotal	**300**	**472**	**157.3%**	**10.8**	**0.0**	**B**
SB	Left Turn	20	38	190.0%	19.6	0.0	B
	Through	330	242	73.3%	8.4	0.0	A
	Right Turn	40	40	100.0%	3.6	0.0	A
	Subtotal	**390**	**320**	**82.1%**	**9.1**	**0.0**	**A**
EB	Left Turn	30	60	200.0%	12.9	0.0	B
	Through	10	10	100.0%	9.3	0.0	A
	Right Turn	40	12	30.0%	3.4	0.0	A
	Subtotal	**80**	**82**	**102.5%**	**11.1**	**0.0**	**B**
WB	Left Turn	80	206	257.5%	12.5	0.0	B
	Through	10	9	90.0%	13.7	0.0	B
	Right Turn	10	31	310.0%	7.9	0.0	A
	Subtotal	**100**	**246**	**246.0%**	**12.0**	**0.0**	**B**
Total		**870**	**1,120**	**128.7%**	**10.6**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 38 **Claus Road/Claribel Realigned (S)** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	370	686	185.4%	11.6	0.0	B
	Right Turn	30	60	200.0%	4.9	0.0	A
	Subtotal	**400**	**746**	**186.5%**	**11.1**	**0.0**	**B**
SB	Left Turn	90	255	283.3%	17.2	0.0	B
	Through	460	659	143.3%	5.1	0.0	A
	Right Turn						
	Subtotal	**550**	**914**	**166.2%**	**8.5**	**0.0**	**A**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	60	50	83.3%	18.6	0.0	B
	Through						
	Right Turn	200	150	75.0%	7.3	0.0	A
	Subtotal	**260**	**200**	**76.9%**	**10.1**	**0.0**	**B**
Total		**1,210**	**1,860**	**153.7%**	**9.7**	**0.0**	**A**

Intersection 39 **Sterns/Sterns Connection** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	10	18	180.0%	1.4	0.0	A
	Right Turn	20	32	160.0%	0.2	0.0	A
	Subtotal	**30**	**50**	**166.7%**	**0.6**	**0.0**	**A**
SB	Left Turn	160	207	129.4%	2.1	0.0	A
	Through	10	21	210.0%	1.0	0.0	A
	Right Turn						
	Subtotal	**170**	**228**	**134.1%**	**2.0**	**0.0**	**A**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	20	39	195.0%	7.9	0.0	A
	Through						
	Right Turn	160	201	125.6%	3.9	0.0	A
	Subtotal	**180**	**240**	**133.3%**	**4.6**	**0.0**	**A**
Total		**380**	**518**	**136.3%**	**3.0**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Queue Length | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	51	104	127	0	0
	Through	2,428	77	151	189	0	0
	Right Turn	2,428	77	151	189	0	0
SB	Left Turn	300	38	83	108	0	0
	Through	2,373	53	107	127	0	0
	Right Turn	2,373	53	107	127	0	0
EB	Left Turn	530	31	73	92	0	0
	Through	3,295	132	204	244	0	0
	Right Turn	410	45	86	107	0	0
WB	Left Turn	580	83	150	179	0	0
	Through	2,518	114	191	213	0	0
	Right Turn	530	19	49	61	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	56	100	118	0	0
	Through	923	37	68	90	0	0
	Right Turn						
SB	Left Turn	550	37	78	97	0	0
	Through	3,946	39	73	97	0	0
	Right Turn	3,946	13	40	57	0	0
EB	Left Turn	715	18	49	60	0	0
	Through	2,518	177	409	527	0	0
	Right Turn	355	49	103	131	0	0
WB	Left Turn	920	103	162	187	0	0
	Through	2,590	83	145	181	0	0
	Right Turn	750	13	40	56	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	51	103	128	0	0
	Through	464	120	193	240	2	0
	Right Turn	464	111	180	214	0	0
SB	Left Turn	290	225	**354**	**337**	9	0
	Through	5,159	167	380	404	0	0
	Right Turn	5,159	178	300	372	0	0
EB	Left Turn	250	203	**325**	**308**	12	0
	Through	5,459	148	391	472	0	0
	Right Turn	5,459	148	391	472	0	0
WB	Left Turn	90	12	52	85	0	0
	Through	491	171	298	357	31	0
	Right Turn	160	59	**161**	**220**	0	0

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	77	139	155	0	0
	Right Turn						
SB	Left Turn						
	Through	464	89	193	228	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	57	111	131	0	0
	Through						
	Right Turn	672	57	111	131	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	72	135	167	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	178	322	359	0	0
	Right Turn	491	178	322	359	0	0
WB	Left Turn	530	65	120	156	0	0
	Through	3,699	0	14	14	0	0
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	62	123	155	0	0
	Through	737	71	125	144	0	0
	Right Turn	737	64	121	140	0	0
SB	Left Turn	550	39	81	96	0	0
	Through	1,039	72	126	146	0	0
	Right Turn	650	44	88	121	0	0
EB	Left Turn	300	60	105	129	0	0
	Through						
	Right Turn	1,111	105	183	224	0	0
WB	Left Turn	300	55	100	118	0	0
	Through						
	Right Turn	1,079	95	166	208	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Queue Length | **PM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	113	187	**230**	0	0
	Through	3,853	199	278	304	5	0
	Right Turn	200	84	186	**223**	0	0
SB	Left Turn	500	201	274	295	0	0
	Through	1,480	179	267	299	0	0
	Right Turn	1,480	172	271	298	0	0
EB	Left Turn	350	132	315	280	0	0
	Through	4,930	283	518	476	10	0
	Right Turn	350	147	341	327	0	0
WB	Left Turn	300	227	130	154	0	0
	Through	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
	Right Turn	350	36	102	139	0	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	85	151	182	0	0
	Through	902	20	47	58	0	0
	Right Turn	600	33	77	103	0	0
SB	Left Turn	650	14	43	62	0	0
	Through	950	38	74	93	0	0
	Right Turn	650	34	74	91	0	0
EB	Left Turn	500	63	113	144	0	0
	Through						
	Right Turn	860	71	135	168	0	0
WB	Left Turn	880	50	89	104	0	0
	Through						
	Right Turn	880	18	55	76	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	135	202	219	0	0
	Through	1,262	106	177	209	0	0
	Right Turn	1,262	80	145	168	0	0
SB	Left Turn	300	52	99	108	0	0
	Through	1,262	75	131	151	0	0
	Right Turn	300	90	162	198	0	0
EB	Left Turn	300	117	184	215	0	0
	Through	1,409	204	296	336	1	0
	Right Turn	300	83	153	191	0	0
WB	Left Turn	300	60	112	129	0	0
	Through	3,308	97	147	172	0	0
	Right Turn	3,308	38	84	114	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Queue Length | **PM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	100	176	**201**	1	0
	Through	2,570	48	101	140	0	0
	Right Turn	2,570	124	209	237	0	0
SB	Left Turn	150	42	88	101	0	0
	Through	2,170	44	90	108	3	0
	Right Turn	75	33	70	**88**	0	0
EB	Left Turn	525	74	140	169	0	0
	Through	2,722	132	218	241	0	0
	Right Turn	2,722	140	234	266	0	0
WB	Left Turn	625	107	166	186	0	0
	Through	3,227	49	95	119	0	0
	Right Turn	3,227	57	113	135	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	50	102	131	0	0
	Through	1,181	103	170	204	0	0
	Right Turn	1,181	74	116	139	0	0
SB	Left Turn	315	44	91	107	0	0
	Through	3,988	79	147	180	0	0
	Right Turn	3,988	122	210	241	0	0
EB	Left Turn	410	48	103	136	0	0
	Through	1,731	18	53	76	0	0
	Right Turn	1,731	42	80	105	0	0
WB	Left Turn	1,878	140	226	264	0	0
	Through	1,878	6	25	39	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	112	167	186	0	0
	Through	2,052	100	156	186	0	0
	Right Turn	2,052	83	147	180	0	0
SB	Left Turn	300	10	36	45	0	0
	Through	556	167	249	280	0	0
	Right Turn	300	32	62	81	0	0
EB	Left Turn	1,374	75	134	156	0	0
	Through	1,374	80	138	162	0	0
	Right Turn						
WB	Left Turn	300	17	49	64	0	0
	Through	1,274	75	127	149	0	0
	Right Turn	300	12	36	50	0	0

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	46	104	150	0	0
	Through	1,227	174	304	377	4	0
	Right Turn	1,227	174	304	377	4	0
SB	Left Turn	175	148	**246**	**234**	7	0
	Through	1,669	161	352	446	13	0
	Right Turn	100	73	**153**	**160**	0	0
EB	Left Turn	3,220	163	263	292	0	0
	Through	3,220	155	262	286	0	0
	Right Turn	3,220	155	262	286	0	0
WB	Left Turn	75	30	**83**	**122**	2	0
	Through	3,356	94	174	201	20	0
	Right Turn	150	52	109	**154**	0	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	30	67	86	0	0
	Through	1,058	0	5	9	0	0
	Right Turn	1,058	0	1	7	0	0
SB	Left Turn	300	8	31	44	0	0
	Through	414	0	4	7	0	0
	Right Turn	414	1	7	21	0	0
EB	Left Turn	300	16	44	57	0	0
	Through	1,163	28	63	83	0	0
	Right Turn	300	36	67	82	0	0
WB	Left Turn	300	13	38	53	0	0
	Through	1,019	32	63	85	0	0
	Right Turn	300	12	35	52	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	25	59	70	0	0
	Through						
	Right Turn	150	24	52	63	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	65	108	131	0	0
	Right Turn	300	62	113	135	0	0
WB	Left Turn	400	21	53	66	0	0
	Through	873	21	50	64	0	0
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Queue Length | **PM Peak Hour**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,090	119	198	220	0	0
	Through	1,090	31	67	89	0	0
	Right Turn	1,000	86	163	198	0	0
SB	Left Turn	520	17	45	64	0	0
	Through	1,217	65	124	148	0	0
	Right Turn	720	68	133	165	0	0
EB	Left Turn	800	91	148	162	0	0
	Through	1,066	137	219	243	0	0
	Right Turn	1,000	84	144	174	0	0
WB	Left Turn	1,590	92	147	162	0	0
	Through	1,590	111	184	213	0	0
	Right Turn	850	20	50	76	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	8	32	49	0	0
	Through	1,572	19	51	65	0	0
	Right Turn	1,572	19	51	65	0	0
SB	Left Turn	797	31	62	72	0	0
	Through	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
	Right Turn	300	48	80	104	0	0
EB	Left Turn	300	11	38	59	0	0
	Through	2,871	0	1	1	0	0
	Right Turn	2,871	0	1	1	0	0
WB	Left Turn	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
	Through	#VALUE!					
	Right Turn	#VALUE!					

Intersection 18 **Bentley Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,498	27	59	75	4	0
	Through	1,498	27	59	75	4	0
	Right Turn	20	11	**38**	**56**	1	0
SB	Left Turn	1,216	24	57	71	4	0
	Through	1,216	24	57	71	4	0
	Right Turn	20	11	**41**	**55**	1	0
EB	Left Turn	2,720	1	14	28	0	0
	Through	2,720	1	14	28	0	0
	Right Turn	2,720	1	14	28	0	0
WB	Left Turn	2,487	5	22	35	0	0
	Through	#VALUE!	5	22	35	0	0
	Right Turn	#VALUE!	5	22	35	0	0

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	49	90	105	0	0
	Through	1,264	47	90	114	0	0
	Right Turn	1,264	47	90	114	0	0
SB	Left Turn	100	46	85	**102**	0	0
	Through	1,626	19	48	59	0	0
	Right Turn	75	34	62	66	0	0
EB	Left Turn	250	44	86	110	0	0
	Through	1,565	56	114	153	0	0
	Right Turn	1,565	69	136	170	0	0
WB	Left Turn	250	25	60	78	0	0
	Through	2,560	107	176	215	0	0
	Right Turn	300	64	123	161	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	165	252	293	0	0
	Through	1,934	169	262	296	0	0
	Right Turn	300	22	59	70	0	0
SB	Left Turn	5,862	263	399	452	0	0
	Through	5,862	263	399	452	0	0
	Right Turn	5,862	209	325	380	0	0
EB	Left Turn	50	**82**	**125**	**110**	43	0
	Through	2,671	112	209	255	28	0
	Right Turn	200	110	186	**226**	0	0
WB	Left Turn	300	19	56	77	0	0
	Through	2,545	135	242	295	1	0
	Right Turn	2,545	108	196	252	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	60	111	135	0	0
	Through	1,873	69	142	196	15	0
	Right Turn	50	**58**	**105**	**109**	4	0
SB	Left Turn	100	37	81	**116**	0	0
	Through	2,914	66	126	160	3	0
	Right Turn	100	45	93	**141**	0	0
EB	Left Turn	250	49	96	125	0	0
	Through	1,994	49	97	124	0	0
	Right Turn	1,994	57	114	158	0	0
WB	Left Turn	200	60	109	135	0	0
	Through	2,690	54	99	122	0	0
	Right Turn	2,690	59	118	152	0	0

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	26	74	111	0	0
	Through	1,498	132	224	263	0	0
	Right Turn	300	124	227	284	0	0
SB	Left Turn	400	168	278	326	0	0
	Through	2,124	66	148	208	0	0
	Right Turn	2,124	88	162	190	0	0
EB	Left Turn	225	52	107	130	0	0
	Through	5,602	60	122	165	0	0
	Right Turn	225	9	34	53	0	0
WB	Left Turn	225	8	30	46	0	0
	Through	2,237	17	48	68	0	0
	Right Turn	225	61	106	130	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	38	81	106	0	0
	Through	1,326	83	148	174	0	0
	Right Turn	1,326	49	113	162	0	0
SB	Left Turn	350	10	37	55	0	0
	Through	1,404	100	168	197	0	0
	Right Turn	350	9	34	49	0	0
EB	Left Turn	225	8	31	45	0	0
	Through	1,997	60	117	147	0	0
	Right Turn	225	28	60	83	0	0
WB	Left Turn	175	20	55	72	0	0
	Through	2,609	52	105	138	0	0
	Right Turn	2,609	52	105	138	0	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	7	29	41	0	0
	Through	1,357	59	104	129	0	0
	Right Turn	700	49	81	98	0	0
SB	Left Turn	600	23	62	86	0	0
	Through	1,181	82	142	168	0	0
	Right Turn	600	56	102	131	0	0
EB	Left Turn	500	96	151	182	0	0
	Through						
	Right Turn	500	67	121	147	0	0
WB	Left Turn	500	54	100	126	0	0
	Through						
	Right Turn	350	82	142	173	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1A**
Queue Length | **PM Peak Hour**

Intersection 25 **Roselle & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	550	42	94	111	0	0
	Through	671	53	117	160	0	0
	Right Turn	550	25	67	91	0	0
SB	Left Turn	275	26	64	87	0	0
	Through	1,058	45	88	107	0	0
	Right Turn	275	3	15	32	0	0
EB	Left Turn	500	16	43	58	0	0
	Through						
	Right Turn	1,221	103	175	199	0	0
WB	Left Turn	1,142	38	70	83	0	0
	Through						
	Right Turn	1,142	44	92	110	0	0

Intersection 26 **Crane Rd & NCC** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	150	8	27	36	0	0
	Through	914	22	59	87	0	0
	Right Turn	300	18	42	62	0	0
SB	Left Turn	200	22	65	88	0	0
	Through	2,754	31	69	86	0	0
	Right Turn	2,754	66	117	138	0	0
EB	Left Turn	1,598	119	185	205	0	0
	Through	1,598	60	116	142	0	0
	Right Turn	630	5	23	44	0	0
WB	Left Turn	930	81	143	178	0	0
	Through	1,342	89	152	185	0	0
	Right Turn	630	15	46	60	0	0

Intersection 27 **Albers Rd & NCC** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	9	33	45	0	0
	Through	2,124	95	162	186	0	0
	Right Turn	300	52	101	127	0	0
SB	Left Turn	200	43	88	106	0	0
	Through	2,210	133	208	232	1	0
	Right Turn	500	49	85	100	0	0
EB	Left Turn	1,588	105	174	212	0	0
	Through	1,588	33	80	110	0	0
	Right Turn	750	3	16	33	0	0
WB	Left Turn	720	75	133	147	0	0
	Through	4,498	47	90	106	0	0
	Right Turn	670	3	17	37	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	220	177	80.5%	33.7	0.0	C
	Through	80	62	77.5%	18.0	0.0	B
	Right Turn	40	21	52.5%	6.8	0.0	A
	Subtotal	**340**	**260**	**76.5%**	**27.8**	**0.0**	**C**
SB	Left Turn	30	19	63.3%	35.4	0.0	D
	Through	140	121	86.4%	31.1	0.0	C
	Right Turn	60	40	66.7%	15.3	0.0	B
	Subtotal	**230**	**180**	**78.3%**	**28.0**	**0.0**	**C**
EB	Left Turn	70	40	57.1%	34.6	0.0	C
	Through	1,190	655	55.0%	24.0	0.0	C
	Right Turn	140	116	82.9%	8.1	0.0	A
	Subtotal	**1,400**	**811**	**57.9%**	**22.2**	**0.0**	**C**
WB	Left Turn	240	190	79.2%	38.8	0.0	D
	Through	1,700	997	58.6%	21.6	0.0	C
	Right Turn	70	54	77.1%	10.2	0.0	B
	Subtotal	**2,010**	**1,241**	**61.7%**	**23.7**	**0.0**	**C**
Total		**3,980**	**2,492**	**62.6%**	**24.0**	**0.0**	**C**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	170	90	52.9%	21.7	0.0	C
	Through	90	69	76.7%	17.4	0.0	B
	Right Turn	170	116	68.2%	2.2	0.0	A
	Subtotal	**430**	**275**	**64.0%**	**12.4**	**0.0**	**B**
SB	Left Turn	40	27	67.5%	27.0	0.0	C
	Through	110	100	90.9%	22.0	0.0	C
	Right Turn	60	53	88.3%	8.1	0.0	A
	Subtotal	**210**	**180**	**85.7%**	**18.7**	**0.0**	**B**
EB	Left Turn	50	29	58.0%	36.6	0.0	D
	Through	790	460	58.2%	22.8	0.0	C
	Right Turn	420	207	49.3%	15.7	0.0	B
	Subtotal	**1,260**	**696**	**55.2%**	**21.3**	**0.0**	**C**
WB	Left Turn	660	377	57.1%	26.9	0.0	C
	Through	1,780	1,091	61.3%	12.9	0.0	B
	Right Turn	50	22	44.0%	3.7	0.0	A
	Subtotal	**2,490**	**1,490**	**59.8%**	**16.3**	**0.0**	**B**
Total		**4,390**	**2,641**	**60.2%**	**17.4**	**0.0**	**B**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	40	21	52.5%	48.8	0.0	D
	Through	450	287	63.8%	30.6	0.0	C
	Right Turn	20	10	50.0%	18.0	0.0	B
	Subtotal	**510**	**318**	**62.4%**	**31.4**	**0.0**	**C**
SB	Left Turn	80	69	86.3%	46.7	0.0	D
	Through	540	412	76.3%	29.1	0.0	C
	Right Turn	220	205	93.2%	22.2	0.0	C
	Subtotal	**840**	**686**	**81.7%**	**28.8**	**0.0**	**C**
EB	Left Turn	200	128	64.0%	41.5	0.0	D
	Through	180	71	39.4%	18.4	0.0	B
	Right Turn	70	38	54.3%	8.1	0.0	A
	Subtotal	**450**	**237**	**52.7%**	**29.2**	**0.0**	**C**
WB	Left Turn	20	8	40.0%	49.7	0.0	D
	Through	550	370	67.3%	32.2	0.0	C
	Right Turn	150	129	86.0%	9.1	0.0	A
	Subtotal	**720**	**507**	**70.4%**	**26.6**	**0.0**	**C**
Total		**2,520**	**1,748**	**69.4%**	**28.7**	**0.0**	**C**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	490	307	62.7%	8.2	0.0	A
	Right Turn	80	73	91.3%	0.1	0.0	A
	Subtotal	**570**	**380**	**66.7%**	**6.6**	**0.0**	**A**
SB	Left Turn						
	Through	630	459	72.9%	12.6	0.0	B
	Right Turn						
	Subtotal	**630**	**459**	**72.9%**	**12.6**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	280	256	91.4%	15.9	0.0	B
	Through	20	11	55.0%	5.6	0.0	A
	Right Turn						
	Subtotal	**300**	**267**	**89.0%**	**15.5**	**0.0**	**B**
Total		**1,500**	**1,106**	**73.7%**	**11.2**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	80	73	91.3%	3.2	0.0	A
	Subtotal	**80**	**73**	**91.3%**	**3.2**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	260	140	53.8%	10.4	0.0	B
	Right Turn	20	12	60.0%	3.8	0.0	A
	Subtotal	**280**	**152**	**54.3%**	**9.9**	**0.0**	**A**
WB	Left Turn	280	254	90.7%	14.9	0.0	B
	Through	720	505	70.1%	4.5	0.0	A
	Right Turn						
	Subtotal	**1,000**	**759**	**75.9%**	**8.0**	**0.0**	**A**
Total		**1,360**	**984**	**72.4%**	**7.9**	**0.0**	**A**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	130	90	69.2%	19.1	0.0	B
	Through	410	277	67.6%	11.8	0.0	B
	Right Turn	140	89	63.6%	4.3	0.0	A
	Subtotal	**680**	**456**	**67.1%**	**11.8**	**0.0**	**B**
SB	Left Turn	50	38	76.0%	17.4	0.0	B
	Through	530	499	94.2%	13.6	0.0	B
	Right Turn	280	212	75.7%	7.4	0.0	A
	Subtotal	**860**	**749**	**87.1%**	**12.0**	**0.0**	**B**
EB	Left Turn	40	29	72.5%	15.4	0.0	B
	Through						
	Right Turn	140	99	70.7%	17.8	0.0	B
	Subtotal	**180**	**128**	**71.1%**	**17.3**	**0.0**	**B**
WB	Left Turn	330	249	75.5%	19.0	0.0	B
	Through						
	Right Turn	250	200	80.0%	20.2	0.0	C
	Subtotal	**580**	**449**	**77.4%**	**19.5**	**0.0**	**B**
Total		**2,300**	**1,782**	**77.5%**	**14.2**	**0.0**	**B**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	310	194	62.6%	48.1	0.0	D
	Through	920	667	72.5%	31.2	0.0	C
	Right Turn	290	150	51.7%	7.9	0.0	A
	Subtotal	**1,520**	**1,011**	**66.5%**	**31.0**	**0.0**	**C**
SB	Left Turn	160	93	58.1%	41.5	0.0	D
	Through	670	614	91.6%	28.5	0.0	C
	Right Turn	180	141	78.3%	13.2	0.0	B
	Subtotal	**1,010**	**848**	**84.0%**	**27.4**	**0.0**	**C**
EB	Left Turn	320	263	82.2%	46.4	0.0	D
	Through	910	604	66.4%	30.2	0.0	C
	Right Turn	240	179	74.6%	6.6	0.0	A
	Subtotal	**1,470**	**1,046**	**71.2%**	**30.2**	**0.0**	**C**
WB	Left Turn	410	185	45.1%	47.8	0.0	D
	Through	1,590	929	58.4%	35.2	0.0	D
	Right Turn	440	282	64.1%	11.2	0.0	B
	Subtotal	**2,440**	**1,396**	**57.2%**	**32.0**	**0.0**	**C**
Total		**6,440**	**4,301**	**66.8%**	**30.4**	**0.0**	**C**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	440	250	56.8%	18.9	0.0	B
	Through	190	172	90.5%	5.1	0.0	A
	Right Turn	350	184	52.6%	2.4	0.0	A
	Subtotal	**980**	**606**	**61.8%**	**10.0**	**0.0**	**A**
SB	Left Turn	30	21	70.0%	24.3	0.0	C
	Through	290	273	94.1%	13.7	0.0	B
	Right Turn	430	262	60.9%	8.5	0.0	A
	Subtotal	**750**	**556**	**74.1%**	**11.7**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,730**	**1,162**	**67.2%**	**10.8**	**0.0**	**B**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	440	363	82.5%	30.7	0.0	C
	Through	450	419	93.1%	14.9	0.0	B
	Right Turn	150	62	41.3%	7.4	0.0	A
	Subtotal	**1,040**	**844**	**81.2%**	**21.1**	**0.0**	**C**
SB	Left Turn	60	28	46.7%	38.3	0.0	D
	Through	430	390	90.7%	30.5	0.0	C
	Right Turn	430	216	50.2%	8.8	0.0	A
	Subtotal	**920**	**634**	**68.9%**	**23.5**	**0.0**	**C**
EB	Left Turn	230	138	60.0%	36.4	0.0	D
	Through	780	373	47.8%	20.4	0.0	C
	Right Turn	250	217	86.8%	6.8	0.0	A
	Subtotal	**1,260**	**728**	**57.8%**	**19.4**	**0.0**	**B**
WB	Left Turn	160	72	45.0%	35.9	0.0	D
	Through	1,530	805	52.6%	26.9	0.0	C
	Right Turn	110	60	54.5%	9.2	0.0	A
	Subtotal	**1,800**	**937**	**52.1%**	**26.5**	**0.0**	**C**
Total		**5,020**	**3,143**	**62.6%**	**22.8**	**0.0**	**C**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	140	124	88.6%	39.6	0.0	D
	Through	60	52	86.7%	29.5	0.0	C
	Right Turn	90	75	83.3%	30.2	0.0	C
	Subtotal	**290**	**251**	**86.6%**	**34.7**	**0.0**	**C**
SB	Left Turn	70	49	70.0%	42.8	0.0	D
	Through	70	55	78.6%	37.4	0.0	D
	Right Turn	120	101	84.2%	7.2	0.0	A
	Subtotal	**260**	**205**	**78.8%**	**23.8**	**0.0**	**C**
EB	Left Turn	50	26	52.0%	46.3	0.0	D
	Through	220	163	74.1%	11.6	0.0	B
	Right Turn	40	22	55.0%	3.9	0.0	A
	Subtotal	**310**	**211**	**68.1%**	**15.1**	**0.0**	**B**
WB	Left Turn	150	138	92.0%	40.6	0.0	D
	Through	570	487	85.4%	10.7	0.0	B
	Right Turn	50	40	80.0%	7.2	0.0	A
	Subtotal	**770**	**665**	**86.4%**	**16.7**	**0.0**	**B**
Total		**1,630**	**1,332**	**81.7%**	**20.9**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	32	64.0%	34.1	0.0	C
	Through	270	215	79.6%	17.9	0.0	B
	Right Turn	240	230	95.8%	6.4	0.0	A
	Subtotal	**560**	**477**	**85.2%**	**13.4**	**0.0**	**B**
SB	Left Turn	70	41	58.6%	35.6	0.0	D
	Through	520	435	83.7%	19.8	0.0	B
	Right Turn	50	43	86.0%	13.6	0.0	B
	Subtotal	**640**	**519**	**81.1%**	**20.5**	**0.0**	**C**
EB	Left Turn	90	80	88.9%	22.0	0.0	C
	Through	40	28	70.0%	31.7	0.0	C
	Right Turn	90	79	87.8%	6.9	0.0	A
	Subtotal	**220**	**187**	**85.0%**	**17.1**	**0.0**	**B**
WB	Left Turn	450	392	87.1%	23.1	0.0	C
	Through	20	9	45.0%	35.7	0.0	D
	Right Turn	70	51	72.9%	3.4	0.0	A
	Subtotal	**540**	**452**	**83.7%**	**21.1**	**0.0**	**C**
Total		**1,960**	**1,635**	**83.4%**	**18.2**	**0.0**	**B**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	850	560	65.9%	32.8	0.0	C
	Through	360	356	98.9%	8.4	0.0	A
	Right Turn	40	21	52.5%	2.6	0.0	A
	Subtotal	**1,250**	**937**	**75.0%**	**22.9**	**0.0**	**C**
SB	Left Turn	30	9	30.0%	39.0	0.0	D
	Through	580	621	107.1%	30.0	0.0	C
	Right Turn	490	278	56.7%	6.8	0.0	A
	Subtotal	**1,100**	**908**	**82.5%**	**23.0**	**0.0**	**C**
EB	Left Turn	390	159	40.8%	47.3	0.0	D
	Through	270	99	36.7%	21.6	0.0	C
	Right Turn	300	206	68.7%	2.0	0.0	A
	Subtotal	**960**	**464**	**48.3%**	**21.7**	**0.0**	**C**
WB	Left Turn	30	11	36.7%	37.6	0.0	D
	Through	470	176	37.4%	31.6	0.0	C
	Right Turn	30	12	40.0%	3.4	0.0	A
	Subtotal	**530**	**199**	**37.5%**	**30.2**	**0.0**	**C**
Total		**3,840**	**2,508**	**65.3%**	**23.3**	**0.0**	**C**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	47	67.1%	23.8	0.0	C
	Through	250	182	72.8%	30.6	0.0	C
	Right Turn	50	42	84.0%	20.6	0.0	C
	Subtotal	**370**	**271**	**73.2%**	**27.9**	**0.0**	**C**
SB	Left Turn	160	138	86.3%	26.9	0.0	C
	Through	200	131	65.5%	27.6	0.0	C
	Right Turn	190	181	95.3%	7.4	0.0	A
	Subtotal	**550**	**450**	**81.8%**	**19.3**	**0.0**	**B**
EB	Left Turn	130	118	90.8%	33.3	0.0	C
	Through	120	90	75.0%	18.4	0.0	B
	Right Turn	40	23	57.5%	7.6	0.0	A
	Subtotal	**290**	**231**	**79.7%**	**24.9**	**0.0**	**C**
WB	Left Turn	40	20	50.0%	42.6	0.0	D
	Through	200	193	96.5%	30.5	0.0	C
	Right Turn	220	162	73.6%	9.7	0.0	A
	Subtotal	**460**	**375**	**81.5%**	**22.2**	**0.0**	**C**
Total		**1,670**	**1,327**	**79.5%**	**22.8**	**0.0**	**C**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	140	20	14.3%	4.4	0.0	A
	Through	360	263	73.1%	2.5	0.0	A
	Right Turn	20	20	100.0%	1.5	0.0	A
	Subtotal	**520**	**303**	**58.3%**	**2.6**	**0.0**	**A**
SB	Left Turn	20	21	105.0%	2.8	0.0	A
	Through	420	357	85.0%	0.6	0.0	A
	Right Turn	20	12	60.0%	0.1	0.0	A
	Subtotal	**460**	**390**	**84.8%**	**0.7**	**0.0**	**A**
EB	Left Turn	40	30	75.0%	10.4	0.0	B
	Through	50	50	100.0%	12.1	0.0	B
	Right Turn	210	142	67.6%	4.9	0.0	A
	Subtotal	**300**	**222**	**74.0%**	**7.3**	**0.0**	**A**
WB	Left Turn	30	8	26.7%	11.5	0.0	B
	Through	80	48	60.0%	13.7	0.0	B
	Right Turn	50	33	66.0%	2.1	0.0	A
	Subtotal	**160**	**89**	**55.6%**	**9.2**	**0.0**	**A**
Total		**1,440**	**1,004**	**69.7%**	**3.5**	**0.0**	**A**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	56	50.9%	15.1	0.0	B
	Through						
	Right Turn	20	10	50.0%	3.1	0.0	A
	Subtotal	**130**	**66**	**50.8%**	**13.3**	**0.0**	**B**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	130	104	80.0%	6.8	0.0	A
	Right Turn	140	121	86.4%	3.1	0.0	A
	Subtotal	**270**	**225**	**83.3%**	**4.8**	**0.0**	**A**
WB	Left Turn	100	69	69.0%	8.2	0.0	A
	Through	360	346	96.1%	2.0	0.0	A
	Right Turn						
	Subtotal	**460**	**415**	**90.2%**	**3.0**	**0.0**	**A**
Total		**860**	**706**	**82.1%**	**4.6**	**0.0**	**A**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	350	231	66.0%	35.3	0.0	D
	Through	190	110	57.9%	19.0	0.0	B
	Right Turn	430	228	53.0%	8.2	0.0	A
	Subtotal	**970**	**569**	**58.7%**	**21.3**	**0.0**	**C**
SB	Left Turn	60	52	86.7%	30.6	0.0	C
	Through	230	162	70.4%	29.4	0.0	C
	Right Turn	380	233	61.3%	11.8	0.0	B
	Subtotal	**670**	**447**	**66.7%**	**20.4**	**0.0**	**C**
EB	Left Turn	300	141	47.0%	27.7	0.0	C
	Through	1,370	899	65.6%	21.5	0.0	C
	Right Turn	330	147	44.5%	4.2	0.0	A
	Subtotal	**2,000**	**1,187**	**59.4%**	**20.1**	**0.0**	**C**
WB	Left Turn	460	246	53.5%	28.8	0.0	C
	Through	1,220	813	66.6%	18.4	0.0	B
	Right Turn	60	42	70.0%	3.0	0.0	A
	Subtotal	**1,740**	**1,101**	**63.3%**	**20.1**	**0.0**	**C**
Total		**5,380**	**3,304**	**61.4%**	**20.4**	**0.0**	**C**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	10	20.0%	6.1	0.0	A
	Through	10	10	100.0%	6.8	0.0	A
	Right Turn	50	11	22.0%	3.0	0.0	A
	Subtotal	**110**	**31**	**28.2%**	**5.2**	**0.0**	**A**
SB	Left Turn	60	38	63.3%	5.7	0.0	A
	Through	10	10	100.0%	8.4	0.0	A
	Right Turn	20	10	50.0%	1.7	0.0	A
	Subtotal	**90**	**58**	**64.4%**	**5.5**	**0.0**	**A**
EB	Left Turn	240	118	49.2%	2.0	0.0	A
	Through	80	47	58.8%	1.4	0.0	A
	Right Turn	50	11	22.0%	0.5	0.0	A
	Subtotal	**370**	**176**	**47.6%**	**1.7**	**0.0**	**A**
WB	Left Turn	50	9	18.0%	1.8	0.0	A
	Through	170	118	69.4%	1.9	0.0	A
	Right Turn	80	40	50.0%	1.1	0.0	A
	Subtotal	**300**	**167**	**55.7%**	**1.7**	**0.0**	**A**
Total		**870**	**432**	**49.7%**	**2.5**	**0.0**	**A**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	20	66.7%	5.0	0.0	A
	Through	20	8	40.0%	9.3	0.0	A
	Right Turn	30	10	33.3%	2.2	0.0	A
	Subtotal	**80**	**38**	**47.5%**	**5.2**	**0.0**	**A**
SB	Left Turn	20	9	45.0%	4.9	0.0	A
	Through	40	28	70.0%	9.2	0.0	A
	Right Turn	30	20	66.7%	3.0	0.0	A
	Subtotal	**90**	**57**	**63.3%**	**6.3**	**0.0**	**A**
EB	Left Turn	20	8	40.0%	2.5	0.0	A
	Through	130	97	74.6%	1.0	0.0	A
	Right Turn	30	11	36.7%	0.9	0.0	A
	Subtotal	**180**	**116**	**64.4%**	**1.1**	**0.0**	**A**
WB	Left Turn	30	17	56.7%	1.3	0.0	A
	Through	300	218	72.7%	1.5	0.0	A
	Right Turn	50	20	40.0%	0.7	0.0	A
	Subtotal	**380**	**255**	**67.1%**	**1.4**	**0.0**	**A**
Total		**730**	**466**	**63.8%**	**2.2**	**0.0**	**A**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	85	77.3%	16.0	0.0	B
	Through	70	61	87.1%	12.4	0.0	B
	Right Turn	40	20	50.0%	5.2	0.0	A
	Subtotal	**220**	**166**	**75.5%**	**13.4**	**0.0**	**B**
SB	Left Turn	130	109	83.8%	17.2	0.0	B
	Through	80	61	76.3%	12.5	0.0	B
	Right Turn	150	142	94.7%	4.8	0.0	A
	Subtotal	**360**	**312**	**86.7%**	**10.6**	**0.0**	**B**
EB	Left Turn	80	71	88.8%	19.5	0.0	B
	Through	390	321	82.3%	9.2	0.0	A
	Right Turn	60	52	86.7%	4.6	0.0	A
	Subtotal	**530**	**444**	**83.8%**	**10.3**	**0.0**	**B**
WB	Left Turn	60	38	63.3%	22.4	0.0	C
	Through	290	256	88.3%	12.1	0.0	B
	Right Turn	80	72	90.0%	5.4	0.0	A
	Subtotal	**430**	**366**	**85.1%**	**11.9**	**0.0**	**B**
Total		**1,540**	**1,288**	**83.6%**	**11.2**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	98	89.1%	32.1	0.0	C
	Through	330	288	87.3%	32.3	0.0	C
	Right Turn	40	43	107.5%	6.9	0.0	A
	Subtotal	**480**	**429**	**89.4%**	**29.7**	**0.0**	**C**
SB	Left Turn	320	259	80.9%	35.9	0.0	D
	Through	460	382	83.0%	31.9	0.0	C
	Right Turn	90	77	85.6%	25.7	0.0	C
	Subtotal	**870**	**718**	**82.5%**	**32.7**	**0.0**	**C**
EB	Left Turn	120	109	90.8%	48.2	0.0	D
	Through	320	236	73.8%	23.4	0.0	C
	Right Turn	90	60	66.7%	15.1	0.0	B
	Subtotal	**530**	**405**	**76.4%**	**28.8**	**0.0**	**C**
WB	Left Turn	20	9	45.0%	38.3	0.0	D
	Through	200	167	83.5%	31.0	0.0	C
	Right Turn	320	270	84.4%	8.3	0.0	A
	Subtotal	**540**	**446**	**82.6%**	**17.4**	**0.0**	**B**
Total		**2,420**	**1,998**	**82.6%**	**27.9**	**0.0**	**C**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	280	260	92.9%	25.7	0.0	C
	Through	120	108	90.0%	18.2	0.0	B
	Right Turn	100	84	84.0%	5.2	0.0	A
	Subtotal	**500**	**452**	**90.4%**	**20.1**	**0.0**	**C**
SB	Left Turn	50	32	64.0%	30.3	0.0	C
	Through	160	138	86.3%	25.1	0.0	C
	Right Turn	140	101	72.1%	8.3	0.0	A
	Subtotal	**350**	**271**	**77.4%**	**19.5**	**0.0**	**B**
EB	Left Turn	70	49	70.0%	30.6	0.0	C
	Through	250	176	70.4%	18.3	0.0	B
	Right Turn	160	152	95.0%	8.1	0.0	A
	Subtotal	**480**	**377**	**78.5%**	**15.8**	**0.0**	**B**
WB	Left Turn	170	148	87.1%	26.4	0.0	C
	Through	190	148	77.9%	13.1	0.0	B
	Right Turn	50	42	84.0%	4.5	0.0	A
	Subtotal	**410**	**338**	**82.4%**	**17.9**	**0.0**	**B**
Total		**1,740**	**1,438**	**82.6%**	**18.3**	**0.0**	**B**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	18	36.0%	33.0	0.0	C
	Through	700	559	79.9%	20.2	0.0	C
	Right Turn	20	12	60.0%	9.5	0.0	A
	Subtotal	**770**	**589**	**76.5%**	**20.4**	**0.0**	**C**
SB	Left Turn	110	89	80.9%	30.4	0.0	C
	Through	650	497	76.5%	16.1	0.0	B
	Right Turn	80	69	86.3%	11.7	0.0	B
	Subtotal	**840**	**655**	**78.0%**	**17.6**	**0.0**	**B**
EB	Left Turn	50	30	60.0%	30.4	0.0	C
	Through	50	31	62.0%	30.3	0.0	C
	Right Turn	40	31	77.5%	5.0	0.0	A
	Subtotal	**140**	**92**	**65.7%**	**21.8**	**0.0**	**C**
WB	Left Turn	30	9	30.0%	32.1	0.0	C
	Through	120	76	63.3%	26.2	0.0	C
	Right Turn	270	235	87.0%	8.2	0.0	A
	Subtotal	**420**	**320**	**76.2%**	**13.1**	**0.0**	**B**
Total		**2,170**	**1,656**	**76.3%**	**18.0**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	59	53.6%	26.3	0.0	C
	Through	680	465	68.4%	10.7	0.0	B
	Right Turn	40	31	77.5%	4.2	0.0	A
	Subtotal	**830**	**555**	**66.9%**	**12.0**	**0.0**	**B**
SB	Left Turn	30	8	26.7%	34.8	0.0	C
	Through	650	513	78.9%	15.7	0.0	B
	Right Turn	40	30	75.0%	5.9	0.0	A
	Subtotal	**720**	**551**	**76.5%**	**15.4**	**0.0**	**B**
EB	Left Turn	20	32	160.0%	28.9	0.0	C
	Through	80	42	52.5%	21.9	0.0	C
	Right Turn	80	50	62.5%	4.4	0.0	A
	Subtotal	**180**	**124**	**68.9%**	**16.7**	**0.0**	**B**
WB	Left Turn	40	27	67.5%	29.5	0.0	C
	Through	230	173	75.2%	25.2	0.0	C
	Right Turn	30	14	46.7%	13.3	0.0	B
	Subtotal	**300**	**214**	**71.3%**	**25.0**	**0.0**	**C**
Total		**2,030**	**1,444**	**71.1%**	**15.6**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	30	37.5%	19.7	0.0	B
	Through	410	394	96.1%	5.9	0.0	A
	Right Turn	460	404	87.8%	5.1	0.0	A
	Subtotal	**950**	**828**	**87.2%**	**6.0**	**0.0**	**A**
SB	Left Turn	100	28	28.0%	21.7	0.0	C
	Through	440	542	123.2%	8.4	0.0	A
	Right Turn	530	340	64.2%	6.6	0.0	A
	Subtotal	**1,070**	**910**	**85.0%**	**8.1**	**0.0**	**A**
EB	Left Turn	90	49	54.4%	14.8	0.0	B
	Through						
	Right Turn	40	31	77.5%	20.1	0.0	C
	Subtotal	**130**	**80**	**61.5%**	**16.9**	**0.0**	**B**
WB	Left Turn	250	174	69.6%	16.9	0.0	B
	Through						
	Right Turn	70	33	47.1%	20.0	0.0	B
	Subtotal	**320**	**207**	**64.7%**	**17.4**	**0.0**	**B**
Total		**2,470**	**2,025**	**82.0%**	**8.6**	**0.0**	**A**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	260	151	58.1%	16.4	0.0	B
	Through	430	255	59.3%	6.3	0.0	A
	Right Turn	360	191	53.1%	3.6	0.0	A
	Subtotal	**1,050**	**597**	**56.9%**	**8.0**	**0.0**	**A**
SB	Left Turn	120	39	32.5%	20.5	0.0	C
	Through	480	418	87.1%	10.9	0.0	B
	Right Turn	60	51	85.0%	4.0	0.0	A
	Subtotal	**660**	**508**	**77.0%**	**10.9**	**0.0**	**B**
EB	Left Turn	20	10	50.0%	17.1	0.0	B
	Through						
	Right Turn	140	94	67.1%	13.4	0.0	B
	Subtotal	**160**	**104**	**65.0%**	**13.8**	**0.0**	**B**
WB	Left Turn	260	154	59.2%	16.3	0.0	B
	Through						
	Right Turn	70	38	54.3%	14.7	0.0	B
	Subtotal	**330**	**192**	**58.2%**	**16.0**	**0.0**	**B**
Total		**2,200**	**1,401**	**63.7%**	**10.6**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	40	9	22.5%	29.2	0.0	C
	Through	60	28	46.7%	25.0	0.0	C
	Right Turn	150	80	53.3%	3.7	0.0	A
	Subtotal	**250**	**117**	**46.8%**	**10.8**	**0.0**	**B**
SB	Left Turn	60	29	48.3%	28.8	0.0	C
	Through	50	28	56.0%	22.3	0.0	C
	Right Turn	900	681	75.7%	6.3	0.0	A
	Subtotal	**1,010**	**738**	**73.1%**	**7.8**	**0.0**	**A**
EB	Left Turn	570	476	83.5%	16.2	0.0	B
	Through	1,230	679	55.2%	6.8	0.0	A
	Right Turn	20	10	50.0%	1.0	0.0	A
	Subtotal	**1,820**	**1,165**	**64.0%**	**10.6**	**0.0**	**B**
WB	Left Turn	50	40	80.0%	27.4	0.0	C
	Through	720	406	56.4%	18.1	0.0	B
	Right Turn	30	10	33.3%	4.3	0.0	A
	Subtotal	**800**	**456**	**57.0%**	**18.6**	**0.0**	**B**
Total		**3,880**	**2,476**	**63.8%**	**11.2**	**0.0**	**B**

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	8	40.0%	48.4	0.0	D
	Through	760	583	76.7%	24.2	0.0	C
	Right Turn	240	236	98.3%	10.3	0.0	B
	Subtotal	**1,020**	**827**	**81.1%**	**20.5**	**0.0**	**C**
SB	Left Turn	20	9	45.0%	37.9	0.0	D
	Through	440	396	90.0%	18.0	0.0	B
	Right Turn	470	278	59.1%	3.3	0.0	A
	Subtotal	**930**	**683**	**73.4%**	**12.3**	**0.0**	**B**
EB	Left Turn	980	570	58.2%	23.6	0.0	C
	Through	300	180	60.0%	16.0	0.0	B
	Right Turn	160	40	25.0%	3.8	0.0	A
	Subtotal	**1,440**	**790**	**54.9%**	**20.9**	**0.0**	**C**
WB	Left Turn	240	218	90.8%	28.1	0.0	C
	Through	350	207	59.1%	23.8	0.0	C
	Right Turn						
	Subtotal	**590**	**425**	**72.0%**	**26.0**	**0.0**	**C**
Total		**3,980**	**2,725**	**68.5%**	**19.4**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	108	191	229	0	0
	Through	2,428	33	77	99	0	0
	Right Turn	2,428	33	77	99	0	0
SB	Left Turn	300	19	54	76	0	0
	Through	2,373	87	167	212	0	0
	Right Turn	2,373	87	167	212	0	0
EB	Left Turn	530	31	73	108	0	0
	Through	3,295	111	185	205	0	0
	Right Turn	410	43	82	102	0	0
WB	Left Turn	580	130	228	271	0	0
	Through	2,518	144	238	273	0	0
	Right Turn	530	20	53	69	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	23	52	70	0	0
	Through	923	24	54	75	0	0
	Right Turn						
SB	Left Turn	550	21	57	78	0	0
	Through	3,946	33	67	79	0	0
	Right Turn	3,946	26	61	78	0	0
EB	Left Turn	715	28	68	92	0	0
	Through	2,518	82	151	166	0	0
	Right Turn	355	62	124	168	0	0
WB	Left Turn	920	102	156	176	0	0
	Through	2,590	112	189	228	0	0
	Right Turn	750	8	31	49	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	26	68	90	0	0
	Through	464	91	158	186	0	0
	Right Turn	464	89	151	175	0	0
SB	Left Turn	290	62	126	159	0	0
	Through	5,159	134	234	276	0	0
	Right Turn	5,159	173	286	328	0	0
EB	Left Turn	250	97	176	216	0	0
	Through	5,459	42	95	117	0	0
	Right Turn	5,459	42	95	117	0	0
WB	Left Turn	90	15	68	**131**	0	0
	Through	491	234	389	447	37	0
	Right Turn	160	92	**224**	**220**	0	0

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	76	141	170	0	0
	Right Turn						
SB	Left Turn						
	Through	464	89	186	226	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	104	161	179	0	0
	Through						
	Right Turn	672	104	161	179	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	16	40	56	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	48	102	123	0	0
	Right Turn	491	48	102	123	0	0
WB	Left Turn	530	93	156	198	0	0
	Through	3,699	2	33	59	0	0
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	48	97	125	0	0
	Through	737	50	91	114	0	0
	Right Turn	737	18	50	68	0	0
SB	Left Turn	550	25	68	98	0	0
	Through	1,038	65	117	133	0	0
	Right Turn	550	52	99	114	0	0
EB	Left Turn	300	16	45	59	0	0
	Through						
	Right Turn	1,111	62	117	138	0	0
WB	Left Turn	300	58	105	116	0	0
	Through						
	Right Turn	1,079	97	165	190	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	86	144	178	0	0
	Through	3,853	135	209	224	0	0
	Right Turn	200	46	94	110	0	0
SB	Left Turn	500	66	124	149	0	0
	Through	1,480	177	257	304	0	0
	Right Turn	1,480	109	204	225	0	0
EB	Left Turn	350	96	152	175	0	0
	Through	4,930	113	168	189	0	0
	Right Turn	350	47	83	103	0	0
WB	Left Turn	300	174	127	141	0	0
	Through	5,895	175	249	270	0	0
	Right Turn	350	96	190	230	0	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	100	173	212	0	0
	Through	902	15	40	56	0	0
	Right Turn	600	19	52	76	0	0
SB	Left Turn	650	15	46	63	0	0
	Through	952	57	100	114	0	0
	Right Turn	650	74	142	180	0	0
EB	Left Turn	500	17	45	65	0	0
	Through						
	Right Turn	860	28	71	95	0	0
WB	Left Turn	880	70	116	140	0	0
	Through						
	Right Turn	880	18	52	74	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	134	200	226	0	0
	Through	1,262	87	149	169	0	0
	Right Turn	1,262	63	128	158	0	0
SB	Left Turn	300	26	59	72	0	0
	Through	1,262	140	212	232	0	0
	Right Turn	300	59	102	120	0	0
EB	Left Turn	300	70	124	145	0	0
	Through	1,409	96	155	177	0	0
	Right Turn	300	41	87	119	0	0
WB	Left Turn	300	46	93	126	0	0
	Through	3,308	146	210	247	0	0
	Right Turn	3,308	80	166	192	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	91	160	185	0	0
	Through	2,570	40	89	106	0	0
	Right Turn	2,570	64	122	145	0	0
SB	Left Turn	150	43	93	113	0	0
	Through	2,170	52	110	152	5	0
	Right Turn	75	49	**94**	**123**	1	0
EB	Left Turn	525	28	68	88	0	0
	Through	2,722	38	82	109	0	0
	Right Turn	2,722	31	75	105	0	0
WB	Left Turn	625	66	105	117	0	0
	Through	3,227	65	130	156	0	0
	Right Turn	3,227	79	151	190	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	29	76	101	0	0
	Through	1,181	56	105	135	0	0
	Right Turn	1,181	59	102	134	0	0
SB	Left Turn	315	30	69	89	0	0
	Through	3,988	85	172	237	0	0
	Right Turn	3,988	131	228	276	0	0
EB	Left Turn	410	50	106	130	0	0
	Through	1,731	25	64	86	0	0
	Right Turn	1,731	41	79	99	0	0
WB	Left Turn	1,878	142	231	255	0	0
	Through	1,878	7	25	38	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	169	239	268	0	0
	Through	2,052	60	108	130	0	0
	Right Turn	2,052	34	86	118	0	0
SB	Left Turn	300	10	33	47	0	0
	Through	501	193	293	346	0	0
	Right Turn	300	59	105	134	0	0
EB	Left Turn	1,375	81	144	157	0	0
	Through	1,375	34	75	96	0	0
	Right Turn						
WB	Left Turn	300	8	33	46	0	0
	Through	1,274	76	128	155	0	0
	Right Turn	300	7	30	47	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	44	117	173	0	0
	Through	1,227	153	257	294	1	0
	Right Turn	1,227	153	257	294	1	0
SB	Left Turn	175	88	172	**207**	1	0
	Through	1,669	100	221	313	8	0
	Right Turn	100	76	**143**	**160**	1	0
EB	Left Turn	3,220	76	141	170	0	0
	Through	3,220	50	111	153	0	0
	Right Turn	3,220	50	111	153	0	0
WB	Left Turn	75	24	**81**	**126**	1	0
	Through	3,356	129	237	300	28	0
	Right Turn	150	73	**161**	**210**	0	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	6	31	48	0	0
	Through	1,058	0	7	11	0	0
	Right Turn	1,058	0	5	6	0	0
SB	Left Turn	300	6	26	40	0	0
	Through	414	0	3	3	0	0
	Right Turn	414	0	4	7	0	0
EB	Left Turn	300	21	52	68	0	0
	Through	1,163	32	68	81	0	0
	Right Turn	300	49	81	97	0	0
WB	Left Turn	300	7	28	50	0	0
	Through	1,019	28	61	84	0	0
	Right Turn	300	16	41	54	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	25	58	72	0	0
	Through						
	Right Turn	150	14	38	47	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	41	77	93	0	0
	Right Turn	300	42	79	99	0	0
WB	Left Turn	400	43	84	109	0	0
	Through	873	36	68	82	0	0
	Right Turn						

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,090	75	125	148	0	0
	Through	1,090	32	75	98	0	0
	Right Turn	1,000	47	94	121	0	0
SB	Left Turn	520	27	62	80	0	0
	Through	1,217	57	109	134	0	0
	Right Turn	720	72	133	160	0	0
EB	Left Turn	800	68	117	138	0	0
	Through	1,066	144	225	260	0	0
	Right Turn	1,000	40	85	106	0	0
WB	Left Turn	1,590	61	108	135	0	0
	Through	1,590	101	168	200	0	0
	Right Turn	850	9	32	52	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	9	34	46	0	0
	Through	1,593	18	49	62	0	0
	Right Turn	1,593	18	49	62	0	0
SB	Left Turn	799	29	62	74	0	0
	Through	799	29	62	74	0	0
	Right Turn	300	9	31	39	0	0
EB	Left Turn	300	11	37	50	0	0
	Through						
	Right Turn						
WB	Left Turn	300	0	6	13	0	0
	Through	5,347	0	2	2	0	0
	Right Turn	5,347	0	2	2	0	0

Intersection 18 **Bentley Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,498	23	55	70	3	0
	Through	1,498	23	55	70	3	0
	Right Turn	20	10	**35**	**53**	1	0
SB	Left Turn	1,216	24	56	68	4	0
	Through	1,216	24	56	68	4	0
	Right Turn	20	18	**47**	**58**	2	0
EB	Left Turn	2,720	1	12	28	0	0
	Through	2,720	1	12	28	0	0
	Right Turn	2,720	1	12	28	0	0
WB	Left Turn	2,487	1	13	28	0	0
	Through	2,487	1	13	28	0	0
	Right Turn	2,487	1	13	28	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	43	83	103	0	0
	Through	1,264	35	72	86	0	0
	Right Turn	1,264	35	72	86	0	0
SB	Left Turn	100	47	87	**106**	0	0
	Through	1,626	29	68	89	0	0
	Right Turn	75	42	72	**81**	0	0
EB	Left Turn	250	37	74	89	0	0
	Through	1,565	49	101	132	0	0
	Right Turn	1,565	62	119	150	0	0
WB	Left Turn	250	27	61	75	0	0
	Through	2,560	91	155	195	0	0
	Right Turn	300	56	113	147	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	130	209	229	0	0
	Through	1,934	135	205	228	0	0
	Right Turn	300	39	78	88	0	0
SB	Left Turn	5,862	251	405	454	0	0
	Through	5,862	251	405	454	0	0
	Right Turn	5,862	219	361	407	0	0
EB	Left Turn	50	**86**	**129**	**110**	41	0
	Through	2,671	148	289	382	33	0
	Right Turn	200	134	**233**	**254**	1	0
WB	Left Turn	300	71	169	237	0	0
	Through	2,545	191	338	395	2	0
	Right Turn	2,545	75	139	189	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	87	130	147	0	0
	Through	1,873	51	100	124	11	0
	Right Turn	50	35	**77**	**101**	1	0
SB	Left Turn	100	27	70	97	0	0
	Through	2,914	85	156	200	6	0
	Right Turn	100	49	**105**	**144**	0	0
EB	Left Turn	250	32	73	93	0	0
	Through	1,994	74	131	148	0	0
	Right Turn	1,994	71	136	167	0	0
WB	Left Turn	200	79	137	164	0	0
	Through	2,690	59	112	135	0	0
	Right Turn	2,690	63	122	153	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	16	48	63	0	0
	Through	1,498	129	218	249	0	0
	Right Turn	300	93	185	219	0	0
SB	Left Turn	400	64	138	178	0	0
	Through	2,125	72	156	181	0	0
	Right Turn	2,125	92	176	211	0	0
EB	Left Turn	225	28	70	88	0	0
	Through	5,602	26	64	84	0	0
	Right Turn	225	18	51	72	0	0
WB	Left Turn	225	10	36	56	0	0
	Through	2,237	43	98	134	0	0
	Right Turn	225	63	112	145	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	40	89	118	0	0
	Through	1,326	78	142	168	0	0
	Right Turn	1,326	48	106	132	0	0
SB	Left Turn	350	11	40	57	0	0
	Through	1,404	119	196	231	0	0
	Right Turn	350	15	47	62	0	0
EB	Left Turn	225	21	55	73	0	0
	Through	1,997	20	60	96	0	0
	Right Turn	225	15	39	59	0	0
WB	Left Turn	175	28	70	107	0	0
	Through	2,609	85	154	191	0	0
	Right Turn	2,609	85	154	191	0	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	650	22	56	74	0	0
	Through	1,357	42	89	108	0	0
	Right Turn	650	64	110	137	0	0
SB	Left Turn	600	18	49	72	0	0
	Through	1,181	61	114	129	0	0
	Right Turn	600	64	116	155	0	0
EB	Left Turn	500	27	61	81	0	0
	Through						
	Right Turn	500	26	65	86	0	0
WB	Left Turn	500	48	85	100	0	0
	Through						
	Right Turn	350	24	62	80	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 25 **Roselle & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	550	62	118	148	0	0
	Through	671	35	84	104	0	0
	Right Turn	550	20	57	85	0	0
SB	Left Turn	550	20	55	80	0	0
	Through	1,058	47	92	109	0	0
	Right Turn	550	4	23	47	0	0
EB	Left Turn	500	3	17	31	0	0
	Through						
	Right Turn	1,221	51	101	129	0	0
WB	Left Turn	1,142	43	75	86	0	0
	Through						
	Right Turn	1,142	27	69	87	0	0

Intersection 26 **Crane Rd & NCC** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	150	7	23	30	0	0
	Through	914	16	44	60	0	0
	Right Turn	300	18	45	59	0	0
SB	Left Turn	200	15	48	67	0	0
	Through	2,750	19	51	71	0	0
	Right Turn	2,750	62	112	140	0	0
EB	Left Turn	1,599	96	153	179	0	0
	Through	1,599	35	86	116	0	0
	Right Turn	630	2	12	26	0	0
WB	Left Turn	930	20	58	83	0	0
	Through	1,340	60	110	139	0	0
	Right Turn	630	7	30	50	0	0

Intersection 27 **Albers Rd & NCC** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	8	31	45	0	0
	Through	2,125	118	201	235	1	0
	Right Turn	300	35	73	95	0	0
SB	Left Turn	200	9	31	41	0	0
	Through	2,166	93	154	173	0	0
	Right Turn	350	28	60	73	0	0
EB	Left Turn	1,588	129	215	253	0	0
	Through	1,588	17	50	73	0	0
	Right Turn	750	4	23	42	0	0
WB	Left Turn	720	59	105	130	0	0
	Through	4,614	43	88	110	0	0
	Right Turn	670	5	22	43	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	82	102.5%	31.9	0.0	C
	Through	90	91	101.1%	26.3	0.0	C
	Right Turn	100	101	101.0%	12.2	0.0	B
	Subtotal	**270**	**274**	**101.5%**	**22.8**	**0.0**	**C**
SB	Left Turn	60	59	98.3%	32.4	0.0	C
	Through	80	80	100.0%	29.0	0.0	C
	Right Turn	10	11	110.0%	9.9	0.0	A
	Subtotal	**150**	**150**	**100.0%**	**28.9**	**0.0**	**C**
EB	Left Turn	40	39	97.5%	34.6	0.0	C
	Through	1,040	1,044	100.4%	20.3	0.0	C
	Right Turn	150	147	98.0%	6.5	0.0	A
	Subtotal	**1,230**	**1,230**	**100.0%**	**19.1**	**0.0**	**B**
WB	Left Turn	130	130	100.0%	34.6	0.0	C
	Through	980	982	100.2%	17.5	0.0	B
	Right Turn	50	50	100.0%	7.7	0.0	A
	Subtotal	**1,160**	**1,162**	**100.2%**	**19.0**	**0.0**	**B**
Total		**2,810**	**2,816**	**100.2%**	**19.9**	**0.0**	**B**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	260	259	99.6%	26.0	0.0	C
	Through	160	158	98.8%	21.3	0.0	C
	Right Turn	460	456	99.1%	4.6	0.0	A
	Subtotal	**880**	**873**	**99.2%**	**14.0**	**0.0**	**B**
SB	Left Turn	60	61	101.7%	30.6	0.0	C
	Through	140	144	102.9%	28.2	0.0	C
	Right Turn	20	20	100.0%	8.6	0.0	A
	Subtotal	**220**	**225**	**102.3%**	**27.1**	**0.0**	**C**
EB	Left Turn	20	19	95.0%	40.7	0.0	D
	Through	1,010	1,010	100.0%	32.0	0.0	C
	Right Turn	170	178	104.7%	15.6	0.0	B
	Subtotal	**1,200**	**1,207**	**100.6%**	**29.7**	**0.0**	**C**
WB	Left Turn	350	352	100.6%	32.0	0.0	C
	Through	880	883	100.3%	11.6	0.0	B
	Right Turn	50	50	100.0%	3.0	0.0	A
	Subtotal	**1,280**	**1,285**	**100.4%**	**16.9**	**0.0**	**B**
Total		**3,580**	**3,590**	**100.3%**	**21.1**	**0.0**	**C**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	60	53	88.3%	51.8	0.0	D
	Through	370	363	98.1%	37.3	0.0	D
	Right Turn	10	11	110.0%	25.5	0.0	C
	Subtotal	**440**	**427**	**97.0%**	**38.8**	**0.0**	**D**
SB	Left Turn	270	263	97.4%	78.7	0.0	E
	Through	420	424	101.0%	30.7	0.0	C
	Right Turn	190	186	97.9%	23.6	0.0	C
	Subtotal	**880**	**873**	**99.2%**	**43.6**	**0.0**	**D**
EB	Left Turn	240	238	99.2%	82.0	0.0	F
	Through	170	163	95.9%	35.7	0.0	D
	Right Turn	20	20	100.0%	25.3	0.0	C
	Subtotal	**430**	**421**	**97.9%**	**61.4**	**0.0**	**E**
WB	Left Turn	10	9	90.0%	58.7	0.0	E
	Through	250	258	103.2%	37.5	0.0	D
	Right Turn	90	90	100.0%	7.9	0.0	A
	Subtotal	**350**	**357**	**102.0%**	**30.6**	**0.0**	**C**
Total		**2,100**	**2,078**	**99.0%**	**44.0**	**0.0**	**D**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	430	417	97.0%	7.7	0.0	A
	Right Turn	350	351	100.3%	1.0	0.0	A
	Subtotal	**780**	**768**	**98.5%**	**4.6**	**0.0**	**A**
SB	Left Turn						
	Through	450	452	100.4%	11.8	0.0	B
	Right Turn						
	Subtotal	**450**	**452**	**100.4%**	**11.8**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	130	126	96.9%	15.5	0.0	B
	Through	10	10	100.0%	4.8	0.0	A
	Right Turn						
	Subtotal	**140**	**136**	**97.1%**	**14.7**	**0.0**	**B**
Total		**1,370**	**1,356**	**99.0%**	**8.0**	**0.0**	**A**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	350	350	100.0%	7.3	0.0	A
	Subtotal	**350**	**350**	**100.0%**	**7.3**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	440	426	96.8%	19.9	0.0	B
	Right Turn	10	11	110.0%	7.7	0.0	A
	Subtotal	**450**	**437**	**97.1%**	**19.6**	**0.0**	**B**
WB	Left Turn	130	124	95.4%	20.2	0.0	C
	Through	350	359	102.6%	3.0	0.0	A
	Right Turn						
	Subtotal	**480**	**483**	**100.6%**	**7.4**	**0.0**	**A**
Total		**1,280**	**1,270**	**99.2%**	**11.6**	**0.0**	**B**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	130	128	98.5%	16.8	0.0	B
	Through	610	617	101.1%	12.6	0.0	B
	Right Turn	530	532	100.4%	5.8	0.0	A
	Subtotal	**1,270**	**1,277**	**100.6%**	**10.2**	**0.0**	**B**
SB	Left Turn	70	69	98.6%	21.1	0.0	C
	Through	480	473	98.5%	16.5	0.0	B
	Right Turn	150	148	98.7%	7.6	0.0	A
	Subtotal	**700**	**690**	**98.6%**	**15.1**	**0.0**	**B**
EB	Left Turn	210	210	100.0%	20.0	0.0	B
	Through						
	Right Turn	200	206	103.0%	19.1	0.0	B
	Subtotal	**410**	**416**	**101.5%**	**19.6**	**0.0**	**B**
WB	Left Turn	220	224	101.8%	19.9	0.0	B
	Through						
	Right Turn	170	165	97.1%	20.6	0.0	C
	Subtotal	**390**	**389**	**99.7%**	**20.2**	**0.0**	**C**
Total		**2,770**	**2,772**	**100.1%**	**14.2**	**0.0**	**B**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	290	282	97.2%	44.7	0.0	D
	Through	1,010	1,001	99.1%	39.5	0.0	D
	Right Turn	190	185	97.4%	15.9	0.0	B
	Subtotal	**1,490**	**1,468**	**98.5%**	**37.5**	**0.0**	**D**
SB	Left Turn	490	501	102.2%	47.3	0.0	D
	Through	930	941	101.2%	25.9	0.0	C
	Right Turn	230	220	95.7%	19.3	0.0	B
	Subtotal	**1,650**	**1,662**	**100.7%**	**31.5**	**0.0**	**C**
EB	Left Turn	270	262	97.0%	48.5	0.0	D
	Through	1,080	1,077	99.7%	79.4	0.0	E
	Right Turn	340	343	100.9%	25.9	0.0	C
	Subtotal	**1,690**	**1,682**	**99.5%**	**63.7**	**0.0**	**E**
WB	Left Turn	220	224	101.8%	42.7	0.0	D
	Through	590	578	98.0%	32.9	0.0	C
	Right Turn	160	154	96.3%	4.4	0.0	A
	Subtotal	**970**	**956**	**98.6%**	**30.6**	**0.0**	**C**
Total		**5,800**	**5,768**	**99.4%**	**42.3**	**0.0**	**D**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	220	212	96.4%	16.1	0.0	B
	Through	200	195	97.5%	5.7	0.0	A
	Right Turn	330	327	99.1%	3.8	0.0	A
	Subtotal	**750**	**734**	**97.9%**	**7.9**	**0.0**	**A**
SB	Left Turn	20	18	90.0%	29.5	0.0	C
	Through	180	180	100.0%	14.9	0.0	B
	Right Turn	150	155	103.3%	6.6	0.0	A
	Subtotal	**350**	**353**	**100.9%**	**12.0**	**0.0**	**B**
EB	Left Turn	310	302	97.4%	16.9	0.0	B
	Through						
	Right Turn	170	167	98.2%	15.6	0.0	B
	Subtotal	**480**	**469**	**97.7%**	**16.4**	**0.0**	**B**
WB	Left Turn	220	221	100.5%	15.7	0.0	B
	Through						
	Right Turn	20	21	105.0%	24.8	0.0	C
	Subtotal	**240**	**242**	**100.8%**	**16.5**	**0.0**	**B**
Total		**1,820**	**1,798**	**98.8%**	**12.1**	**0.0**	**B**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	320	320	100.0%	33.3	0.0	C
	Through	420	432	102.9%	20.2	0.0	C
	Right Turn	70	66	94.3%	10.6	0.0	B
	Subtotal	**810**	**818**	**101.0%**	**24.6**	**0.0**	**C**
SB	Left Turn	70	64	91.4%	33.8	0.0	C
	Through	180	178	98.9%	25.2	0.0	C
	Right Turn	210	209	99.5%	8.1	0.0	A
	Subtotal	**460**	**451**	**98.0%**	**18.5**	**0.0**	**B**
EB	Left Turn	280	272	97.1%	34.2	0.0	C
	Through	930	916	98.5%	26.3	0.0	C
	Right Turn	480	469	97.7%	8.0	0.0	A
	Subtotal	**1,690**	**1,657**	**98.0%**	**22.4**	**0.0**	**C**
WB	Left Turn	90	96	106.7%	35.5	0.0	D
	Through	480	484	100.8%	24.7	0.0	C
	Right Turn	60	63	105.0%	8.4	0.0	A
	Subtotal	**630**	**643**	**102.1%**	**24.7**	**0.0**	**C**
Total		**3,590**	**3,569**	**99.4%**	**22.8**	**0.0**	**C**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	140	142	101.4%	40.0	0.0	D
	Through	70	69	98.6%	28.8	0.0	C
	Right Turn	210	202	96.2%	34.4	0.0	C
	Subtotal	**420**	**413**	**98.3%**	**35.4**	**0.0**	**D**
SB	Left Turn	50	49	98.0%	45.2	0.0	D
	Through	50	49	98.0%	38.0	0.0	D
	Right Turn	60	68	113.3%	6.4	0.0	A
	Subtotal	**160**	**166**	**103.8%**	**27.2**	**0.0**	**C**
EB	Left Turn	90	88	97.8%	45.2	0.0	D
	Through	620	615	99.2%	21.0	0.0	C
	Right Turn	110	115	104.5%	15.4	0.0	B
	Subtotal	**820**	**818**	**99.8%**	**22.8**	**0.0**	**C**
WB	Left Turn	300	308	102.7%	43.8	0.0	D
	Through	300	299	99.7%	15.3	0.0	B
	Right Turn	30	30	100.0%	8.3	0.0	A
	Subtotal	**630**	**637**	**101.1%**	**28.8**	**0.0**	**C**
Total		**2,030**	**2,034**	**100.2%**	**27.6**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	60	59	98.3%	38.5	0.0	D
	Through	490	491	100.2%	21.3	0.0	C
	Right Turn	380	379	99.7%	8.2	0.0	A
	Subtotal	**930**	**929**	**99.9%**	**17.0**	**0.0**	**B**
SB	Left Turn	60	63	105.0%	36.9	0.0	D
	Through	450	468	104.0%	21.1	0.0	C
	Right Turn	40	42	105.0%	14.5	0.0	B
	Subtotal	**550**	**573**	**104.2%**	**22.4**	**0.0**	**C**
EB	Left Turn	80	78	97.5%	23.0	0.0	C
	Through	20	21	105.0%	38.6	0.0	D
	Right Turn	100	111	111.0%	7.3	0.0	A
	Subtotal	**200**	**210**	**105.0%**	**16.3**	**0.0**	**B**
WB	Left Turn	370	373	100.8%	28.4	0.0	C
	Through	10	9	90.0%	39.8	0.0	D
	Right Turn	40	43	107.5%	3.5	0.0	A
	Subtotal	**420**	**425**	**101.2%**	**26.1**	**0.0**	**C**
Total		**2,100**	**2,137**	**101.8%**	**20.2**	**0.0**	**C**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	330	327	99.1%	28.9	0.0	C
	Through	670	672	100.3%	11.5	0.0	B
	Right Turn	40	42	105.0%	5.4	0.0	A
	Subtotal	**1,040**	**1,041**	**100.1%**	**16.7**	**0.0**	**B**
SB	Left Turn	10	9	90.0%	41.4	0.0	D
	Through	580	583	100.5%	25.7	0.0	C
	Right Turn	150	150	100.0%	4.7	0.0	A
	Subtotal	**740**	**742**	**100.3%**	**21.6**	**0.0**	**C**
EB	Left Turn	170	158	92.9%	36.6	0.0	D
	Through	300	302	100.7%	21.4	0.0	C
	Right Turn	690	699	101.3%	5.3	0.0	A
	Subtotal	**1,160**	**1,159**	**99.9%**	**13.8**	**0.0**	**B**
WB	Left Turn	20	21	105.0%	34.3	0.0	C
	Through	190	199	104.7%	27.9	0.0	C
	Right Turn	20	22	110.0%	4.9	0.0	A
	Subtotal	**230**	**242**	**105.2%**	**26.4**	**0.0**	**C**
Total		**3,170**	**3,184**	**100.4%**	**17.5**	**0.0**	**B**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	60	59	98.3%	33.0	0.0	C
	Through	220	221	100.5%	38.6	0.0	D
	Right Turn	30	33	110.0%	28.3	0.0	C
	Subtotal	**310**	**313**	**101.0%**	**36.5**	**0.0**	**D**
SB	Left Turn	220	218	99.1%	40.5	0.0	D
	Through	180	176	97.8%	37.2	0.0	D
	Right Turn	140	144	102.9%	9.8	0.0	A
	Subtotal	**540**	**538**	**99.6%**	**31.2**	**0.0**	**C**
EB	Left Turn	270	261	96.7%	41.5	0.0	D
	Through	380	384	101.1%	28.8	0.0	C
	Right Turn	30	34	113.3%	21.0	0.0	C
	Subtotal	**680**	**679**	**99.9%**	**33.3**	**0.0**	**C**
WB	Left Turn	30	29	96.7%	50.5	0.0	D
	Through	150	144	96.0%	36.0	0.0	D
	Right Turn	120	116	96.7%	11.4	0.0	B
	Subtotal	**300**	**289**	**96.3%**	**27.6**	**0.0**	**C**
Total		**1,830**	**1,819**	**99.4%**	**32.3**	**0.0**	**C**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	130	128	98.5%	6.1	0.0	A
	Through	360	352	97.8%	3.3	0.0	A
	Right Turn	30	32	106.7%	1.6	0.0	A
	Subtotal	**520**	**512**	**98.5%**	**3.9**	**0.0**	**A**
SB	Left Turn	30	30	100.0%	3.4	0.0	A
	Through	310	302	97.4%	0.8	0.0	A
	Right Turn	20	22	110.0%	0.2	0.0	A
	Subtotal	**360**	**354**	**98.3%**	**1.0**	**0.0**	**A**
EB	Left Turn	20	18	90.0%	15.3	0.0	B
	Through	40	40	100.0%	17.9	0.0	B
	Right Turn	70	74	105.7%	4.0	0.0	A
	Subtotal	**130**	**132**	**101.5%**	**9.8**	**0.0**	**A**
WB	Left Turn	20	18	90.0%	16.2	0.0	B
	Through	60	59	98.3%	15.9	0.0	B
	Right Turn	20	21	105.0%	2.3	0.0	A
	Subtotal	**100**	**98**	**98.0%**	**13.0**	**0.0**	**B**
Total		**1,110**	**1,096**	**98.7%**	**4.5**	**0.0**	**A**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	48	96.0%	12.0	0.0	B
	Through						
	Right Turn	100	98	98.0%	3.4	0.0	A
	Subtotal	**150**	**146**	**97.3%**	**6.2**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	490	488	99.6%	7.6	0.0	A
	Right Turn	170	174	102.4%	4.2	0.0	A
	Subtotal	**660**	**662**	**100.3%**	**6.7**	**0.0**	**A**
WB	Left Turn	40	38	95.0%	18.6	0.0	B
	Through	210	206	98.1%	3.7	0.0	A
	Right Turn						
	Subtotal	**250**	**244**	**97.6%**	**6.0**	**0.0**	**A**
Total		**1,060**	**1,052**	**99.2%**	**6.5**	**0.0**	**A**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	380	387	101.8%	51.9	0.0	D
	Through	150	148	98.7%	16.6	0.0	B
	Right Turn	280	288	102.9%	8.0	0.0	A
	Subtotal	**810**	**823**	**101.6%**	**30.2**	**0.0**	**C**
SB	Left Turn	30	31	103.3%	33.4	0.0	C
	Through	200	205	102.5%	36.9	0.0	D
	Right Turn	240	250	104.2%	12.6	0.0	B
	Subtotal	**470**	**486**	**103.4%**	**24.2**	**0.0**	**C**
EB	Left Turn	260	251	96.5%	40.2	0.0	D
	Through	770	780	101.3%	27.1	0.0	C
	Right Turn	330	326	98.8%	8.0	0.0	A
	Subtotal	**1,360**	**1,357**	**99.8%**	**24.9**	**0.0**	**C**
WB	Left Turn	370	368	99.5%	39.4	0.0	D
	Through	750	739	98.5%	25.0	0.0	C
	Right Turn	100	105	105.0%	4.5	0.0	A
	Subtotal	**1,220**	**1,212**	**99.3%**	**27.6**	**0.0**	**C**
Total		**3,860**	**3,878**	**100.5%**	**26.8**	**0.0**	**C**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	11	110.0%	6.4	0.0	A
	Through	10	10	100.0%	8.0	0.0	A
	Right Turn	10	12	120.0%	2.9	0.0	A
	Subtotal	**30**	**33**	**110.0%**	**5.6**	**0.0**	**A**
SB	Left Turn	40	39	97.5%	6.8	0.0	A
	Through	10	10	100.0%	10.3	0.0	B
	Right Turn	140	136	97.1%	3.8	0.0	A
	Subtotal	**190**	**185**	**97.4%**	**4.8**	**0.0**	**A**
EB	Left Turn	100	104	104.0%	1.9	0.0	A
	Through	120	121	100.8%	1.4	0.0	A
	Right Turn	10	11	110.0%	0.8	0.0	A
	Subtotal	**230**	**236**	**102.6%**	**1.6**	**0.0**	**A**
WB	Left Turn	10	8	80.0%	1.2	0.0	A
	Through	100	102	102.0%	2.2	0.0	A
	Right Turn	20	21	105.0%	0.9	0.0	A
	Subtotal	**130**	**131**	**100.8%**	**1.9**	**0.0**	**A**
Total		**580**	**585**	**100.9%**	**2.9**	**0.0**	**A**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	10	100.0%	4.9	0.0	A
	Through	30	31	103.3%	9.8	0.0	A
	Right Turn	10	10	100.0%	3.1	0.0	A
	Subtotal	**50**	**51**	**102.0%**	**7.5**	**0.0**	**A**
SB	Left Turn	20	18	90.0%	4.9	0.0	A
	Through	10	11	110.0%	8.5	0.0	A
	Right Turn	10	11	110.0%	2.4	0.0	A
	Subtotal	**40**	**40**	**100.0%**	**5.2**	**0.0**	**A**
EB	Left Turn	10	9	90.0%	3.6	0.0	A
	Through	210	212	101.0%	1.9	0.0	A
	Right Turn	20	20	100.0%	1.1	0.0	A
	Subtotal	**240**	**241**	**100.4%**	**1.9**	**0.0**	**A**
WB	Left Turn	30	31	103.3%	1.9	0.0	A
	Through	110	111	100.9%	1.7	0.0	A
	Right Turn	20	24	120.0%	0.5	0.0	A
	Subtotal	**160**	**166**	**103.8%**	**1.6**	**0.0**	**A**
Total		**490**	**498**	**101.6%**	**2.6**	**0.0**	**A**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	90	91	101.1%	19.1	0.0	B
	Through	50	50	100.0%	15.6	0.0	B
	Right Turn	60	60	100.0%	7.8	0.0	A
	Subtotal	**200**	**201**	**100.5%**	**14.9**	**0.0**	**B**
SB	Left Turn	90	91	101.1%	18.5	0.0	B
	Through	40	36	90.0%	14.9	0.0	B
	Right Turn	90	93	103.3%	4.8	0.0	A
	Subtotal	**220**	**220**	**100.0%**	**12.1**	**0.0**	**B**
EB	Left Turn	90	94	104.4%	22.8	0.0	C
	Through	590	592	100.3%	9.6	0.0	A
	Right Turn	40	39	97.5%	5.4	0.0	A
	Subtotal	**720**	**725**	**100.7%**	**11.1**	**0.0**	**B**
WB	Left Turn	30	27	90.0%	28.1	0.0	C
	Through	530	517	97.5%	14.6	0.0	B
	Right Turn	70	69	98.6%	7.8	0.0	A
	Subtotal	**630**	**613**	**97.3%**	**14.4**	**0.0**	**B**
Total		**1,770**	**1,759**	**99.4%**	**12.8**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	100	100.0%	38.1	0.0	D
	Through	420	425	101.2%	39.2	0.0	D
	Right Turn	110	114	103.6%	8.9	0.0	A
	Subtotal	**630**	**639**	**101.4%**	**33.6**	**0.0**	**C**
SB	Left Turn	310	313	101.0%	46.6	0.0	D
	Through	390	390	100.0%	40.4	0.0	D
	Right Turn	70	69	98.6%	34.1	0.0	C
	Subtotal	**770**	**772**	**100.3%**	**42.4**	**0.0**	**D**
EB	Left Turn	100	100	100.0%	82.3	0.0	F
	Through	380	376	98.9%	33.4	0.0	C
	Right Turn	50	48	96.0%	25.4	0.0	C
	Subtotal	**530**	**524**	**98.9%**	**42.0**	**0.0**	**D**
WB	Left Turn	70	70	100.0%	63.6	0.0	E
	Through	300	297	99.0%	37.7	0.0	D
	Right Turn	370	362	97.8%	12.4	0.0	B
	Subtotal	**740**	**729**	**98.5%**	**27.6**	**0.0**	**C**
Total		**2,670**	**2,664**	**99.8%**	**36.2**	**0.0**	**D**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	140	141	100.7%	28.5	0.0	C
	Through	150	148	98.7%	22.0	0.0	C
	Right Turn	170	173	101.8%	7.5	0.0	A
	Subtotal	**460**	**462**	**100.4%**	**18.6**	**0.0**	**B**
SB	Left Turn	50	48	96.0%	32.7	0.0	C
	Through	120	116	96.7%	26.5	0.0	C
	Right Turn	100	98	98.0%	8.8	0.0	A
	Subtotal	**270**	**262**	**97.0%**	**21.0**	**0.0**	**C**
EB	Left Turn	90	90	100.0%	30.0	0.0	C
	Through	380	370	97.4%	17.3	0.0	B
	Right Turn	160	161	100.6%	10.1	0.0	B
	Subtotal	**630**	**621**	**98.6%**	**17.3**	**0.0**	**B**
WB	Left Turn	110	106	96.4%	30.6	0.0	C
	Through	420	419	99.8%	16.4	0.0	B
	Right Turn	50	50	100.0%	9.2	0.0	A
	Subtotal	**580**	**575**	**99.1%**	**18.4**	**0.0**	**B**
Total		**1,940**	**1,920**	**99.0%**	**18.4**	**0.0**	**B**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	29	96.7%	32.7	0.0	C
	Through	470	464	98.7%	33.8	0.0	C
	Right Turn	10	11	110.0%	18.6	0.0	B
	Subtotal	**510**	**504**	**98.8%**	**33.4**	**0.0**	**C**
SB	Left Turn	340	333	97.9%	34.7	0.0	C
	Through	550	562	102.2%	17.7	0.0	B
	Right Turn	40	40	100.0%	12.9	0.0	B
	Subtotal	**930**	**935**	**100.5%**	**23.5**	**0.0**	**C**
EB	Left Turn	70	67	95.7%	33.7	0.0	C
	Through	100	104	104.0%	28.3	0.0	C
	Right Turn	10	12	120.0%	5.8	0.0	A
	Subtotal	**180**	**183**	**101.7%**	**28.8**	**0.0**	**C**
WB	Left Turn	10	9	90.0%	28.5	0.0	C
	Through	20	22	110.0%	28.1	0.0	C
	Right Turn	200	204	102.0%	7.6	0.0	A
	Subtotal	**230**	**235**	**102.2%**	**10.3**	**0.0**	**B**
Total		**1,850**	**1,857**	**100.4%**	**25.1**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	51	102.0%	26.2	0.0	C
	Through	570	574	100.7%	9.9	0.0	A
	Right Turn	30	32	106.7%	4.1	0.0	A
	Subtotal	**650**	**657**	**101.1%**	**10.9**	**0.0**	**B**
SB	Left Turn	10	10	100.0%	27.7	0.0	C
	Through	470	459	97.7%	12.3	0.0	B
	Right Turn	20	24	120.0%	5.0	0.0	A
	Subtotal	**500**	**493**	**98.6%**	**12.3**	**0.0**	**B**
EB	Left Turn	10	8	80.0%	23.7	0.0	C
	Through	130	125	96.2%	22.4	0.0	C
	Right Turn	100	102	102.0%	5.1	0.0	A
	Subtotal	**240**	**235**	**97.9%**	**14.9**	**0.0**	**B**
WB	Left Turn	20	21	105.0%	28.1	0.0	C
	Through	90	86	95.6%	20.0	0.0	B
	Right Turn	10	12	120.0%	8.6	0.0	A
	Subtotal	**120**	**119**	**99.2%**	**20.3**	**0.0**	**C**
Total		**1,510**	**1,504**	**99.6%**	**12.7**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	10	100.0%	20.9	0.0	C
	Through	450	456	101.3%	12.3	0.0	B
	Right Turn	210	208	99.0%	4.6	0.0	A
	Subtotal	**670**	**674**	**100.6%**	**10.1**	**0.0**	**B**
SB	Left Turn	50	52	104.0%	20.3	0.0	C
	Through	590	609	103.2%	13.7	0.0	B
	Right Turn	280	291	103.9%	7.2	0.0	A
	Subtotal	**920**	**952**	**103.5%**	**12.1**	**0.0**	**B**
EB	Left Turn	330	324	98.2%	19.2	0.0	B
	Through						
	Right Turn	120	121	100.8%	23.1	0.0	C
	Subtotal	**450**	**445**	**98.9%**	**20.3**	**0.0**	**C**
WB	Left Turn	220	219	99.5%	17.5	0.0	B
	Through						
	Right Turn	150	148	98.7%	21.8	0.0	C
	Subtotal	**370**	**367**	**99.2%**	**19.2**	**0.0**	**B**
Total		**2,410**	**2,438**	**101.2%**	**14.1**	**0.0**	**B**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	120	116	96.7%	14.6	0.0	B
	Through	400	396	99.0%	7.5	0.0	A
	Right Turn	210	207	98.6%	4.2	0.0	A
	Subtotal	**730**	**719**	**98.5%**	**7.7**	**0.0**	**A**
SB	Left Turn	50	43	86.0%	23.2	0.0	C
	Through	320	320	100.0%	13.8	0.0	B
	Right Turn	30	31	103.3%	3.5	0.0	A
	Subtotal	**400**	**394**	**98.5%**	**14.0**	**0.0**	**B**
EB	Left Turn	50	47	94.0%	17.6	0.0	B
	Through						
	Right Turn	250	248	99.2%	15.1	0.0	B
	Subtotal	**300**	**295**	**98.3%**	**15.5**	**0.0**	**B**
WB	Left Turn	110	114	103.6%	16.8	0.0	B
	Through						
	Right Turn	70	70	100.0%	19.1	0.0	B
	Subtotal	**180**	**184**	**102.2%**	**17.7**	**0.0**	**B**
Total		**1,610**	**1,592**	**98.9%**	**11.9**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	10	100.0%	30.0	0.0	C
	Through	40	40	100.0%	24.3	0.0	C
	Right Turn	60	65	108.3%	3.0	0.0	A
	Subtotal	**110**	**115**	**104.5%**	**12.8**	**0.0**	**B**
SB	Left Turn	30	29	96.7%	29.7	0.0	C
	Through	50	47	94.0%	22.4	0.0	C
	Right Turn	600	616	102.7%	6.8	0.0	A
	Subtotal	**680**	**692**	**101.8%**	**8.8**	**0.0**	**A**
EB	Left Turn	500	491	98.2%	17.8	0.0	B
	Through	560	553	98.8%	10.0	0.0	A
	Right Turn	20	20	100.0%	2.0	0.0	A
	Subtotal	**1,080**	**1,064**	**98.5%**	**13.4**	**0.0**	**B**
WB	Left Turn	130	128	98.5%	25.5	0.0	C
	Through	610	608	99.7%	20.2	0.0	C
	Right Turn	30	32	106.7%	5.2	0.0	A
	Subtotal	**770**	**768**	**99.7%**	**20.5**	**0.0**	**C**
Total		**2,640**	**2,639**	**100.0%**	**14.2**	**0.0**	**B**

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	11	110.0%	41.1	0.0	D
	Through	480	479	99.8%	21.5	0.0	C
	Right Turn	250	247	98.8%	10.6	0.0	B
	Subtotal	**740**	**737**	**99.6%**	**18.1**	**0.0**	**B**
SB	Left Turn	30	29	96.7%	35.5	0.0	D
	Through	670	678	101.2%	22.1	0.0	C
	Right Turn	600	594	99.0%	6.9	0.0	A
	Subtotal	**1,300**	**1,301**	**100.1%**	**15.5**	**0.0**	**B**
EB	Left Turn	420	423	100.7%	30.7	0.0	C
	Through	200	197	98.5%	11.9	0.0	B
	Right Turn	30	29	96.7%	3.7	0.0	A
	Subtotal	**650**	**649**	**99.8%**	**23.8**	**0.0**	**C**
WB	Left Turn	230	228	99.1%	28.8	0.0	C
	Through	170	175	102.9%	22.8	0.0	C
	Right Turn						
	Subtotal	**400**	**403**	**100.8%**	**26.2**	**0.0**	**C**
Total		**3,090**	**3,090**	**100.0%**	**19.2**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	53	112	140	0	0
	Through	2,428	75	135	155	0	0
	Right Turn	2,428	75	135	155	0	0
SB	Left Turn	300	44	97	126	0	0
	Through	2,373	48	97	121	0	0
	Right Turn	2,373	48	97	121	0	0
EB	Left Turn	530	32	73	95	0	0
	Through	3,295	131	204	234	0	0
	Right Turn	410	44	88	114	0	0
WB	Left Turn	580	87	154	188	0	0
	Through	2,518	116	190	217	0	0
	Right Turn	530	18	49	64	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	55	98	120	0	0
	Through	923	39	74	97	0	0
	Right Turn						
SB	Left Turn	550	42	94	131	0	0
	Through	3,946	38	72	96	0	0
	Right Turn	3,946	12	36	56	0	0
EB	Left Turn	715	17	52	78	0	0
	Through	2,518	171	405	511	0	0
	Right Turn	355	52	106	136	0	0
WB	Left Turn	920	99	148	168	0	0
	Through	2,590	83	151	183	0	0
	Right Turn	750	14	40	54	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	53	112	145	0	0
	Through	464	121	199	226	2	0
	Right Turn	464	115	189	226	0	0
SB	Left Turn	290	229	**367**	**340**	13	0
	Through	5,159	186	440	511	0	0
	Right Turn	5,159	175	292	367	0	0
EB	Left Turn	250	212	**327**	**309**	14	0
	Through	5,459	178	545	509	0	0
	Right Turn	5,459	178	545	509	0	0
WB	Left Turn	90	14	59	**116**	0	0
	Through	491	176	290	344	34	0
	Right Turn	160	65	**180**	**220**	0	0

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	80	146	187	0	0
	Right Turn						
SB	Left Turn						
	Through	464	84	180	209	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	60	119	146	0	0
	Through						
	Right Turn	672	60	119	146	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	69	133	174	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	166	290	306	0	0
	Right Turn	491	166	290	306	0	0
WB	Left Turn	530	64	116	132	0	0
	Through						
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	54	105	136	0	0
	Through	737	74	130	155	0	0
	Right Turn	737	62	120	148	0	0
SB	Left Turn	550	42	96	126	0	0
	Through	1,038	67	113	137	0	0
	Right Turn	650	43	85	107	0	0
EB	Left Turn	300	60	101	118	0	0
	Through						
	Right Turn	1,111	98	167	198	0	0
WB	Left Turn	300	51	99	119	0	0
	Through						
	Right Turn	1,079	91	157	190	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	113	198	**251**	0	0
	Through	3,853	201	303	358	7	0
	Right Turn	200	80	183	**259**	0	0
SB	Left Turn	500	212	308	332	0	0
	Through	1,480	177	258	281	0	0
	Right Turn	1,480	177	280	303	0	0
EB	Left Turn	350	140	335	**354**	0	0
	Through	4,930	330	648	629	14	0
	Right Turn	350	161	**377**	**367**	0	0
WB	Left Turn	300	239	123	143	0	0
	Through	5,965	113	174	201	0	0
	Right Turn	350	29	89	127	0	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	76	136	169	0	0
	Through	902	18	45	60	0	0
	Right Turn	600	34	77	97	0	0
SB	Left Turn	650	14	41	58	0	0
	Through	953	42	79	97	0	0
	Right Turn	650	37	73	92	0	0
EB	Left Turn	500	60	101	121	0	0
	Through						
	Right Turn	860	74	131	158	0	0
WB	Left Turn	880	52	91	103	0	0
	Through						
	Right Turn	880	19	55	76	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	135	205	224	0	0
	Through	1,262	107	173	192	0	0
	Right Turn	1,262	85	156	178	0	0
SB	Left Turn	300	47	95	108	0	0
	Through	1,262	73	125	142	0	0
	Right Turn	300	88	157	210	0	0
EB	Left Turn	300	115	183	221	0	0
	Through	1,409	201	293	327	1	0
	Right Turn	300	73	126	155	0	0
WB	Left Turn	300	64	123	156	0	0
	Through	3,308	97	147	166	0	0
	Right Turn	3,308	40	89	131	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	102	177	**203**	1	0
	Through	2,570	49	113	159	0	0
	Right Turn	2,570	135	221	254	0	0
SB	Left Turn	150	43	90	110	0	0
	Through	2,170	43	97	134	4	0
	Right Turn	75	36	75	**104**	0	0
EB	Left Turn	525	71	133	155	0	0
	Through	2,722	141	225	251	0	0
	Right Turn	2,722	147	231	262	0	0
WB	Left Turn	625	110	168	188	0	0
	Through	3,227	52	102	124	0	0
	Right Turn	3,227	60	121	154	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	50	105	122	0	0
	Through	1,181	116	186	215	0	0
	Right Turn	1,181	78	128	158	0	0
SB	Left Turn	315	46	95	113	0	0
	Through	3,988	89	170	221	0	0
	Right Turn	3,988	125	216	258	0	0
EB	Left Turn	410	46	100	130	0	0
	Through	1,731	19	54	72	0	0
	Right Turn	1,731	44	80	103	0	0
WB	Left Turn	1,878	143	223	247	0	0
	Through	1,878	7	27	48	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	116	169	189	0	0
	Through	2,052	100	154	170	0	0
	Right Turn	2,052	85	153	165	0	0
SB	Left Turn	300	10	35	48	0	0
	Through	522	173	257	296	0	0
	Right Turn	300	36	69	91	0	0
EB	Left Turn	1,375	75	132	163	0	0
	Through	1,375	82	139	163	0	0
	Right Turn						
WB	Left Turn	300	19	49	60	0	0
	Through	1,274	76	127	146	0	0
	Right Turn	300	12	37	50	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	54	135	233	0	0
	Through	1,227	178	311	378	4	0
	Right Turn	1,227	178	311	378	4	0
SB	Left Turn	175	150	**250**	**234**	8	0
	Through	1,669	181	418	536	16	0
	Right Turn	100	74	**154**	**160**	0	0
EB	Left Turn	3,220	168	277	322	0	0
	Through	3,220	193	330	372	0	0
	Right Turn	3,220	193	330	372	0	0
WB	Left Turn	75	30	**80**	**110**	2	0
	Through	3,356	96	182	224	21	0
	Right Turn	150	50	108	**160**	0	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	28	62	77	0	0
	Through	1,058	0	7	12	0	0
	Right Turn	1,058	1	9	12	0	0
SB	Left Turn	300	10	35	53	0	0
	Through	414	1	9	15	0	0
	Right Turn	414	1	9	22	0	0
EB	Left Turn	300	15	43	55	0	0
	Through	1,163	30	66	80	0	0
	Right Turn	300	35	67	76	0	0
WB	Left Turn	300	14	40	52	0	0
	Through	1,019	32	65	80	0	0
	Right Turn	300	12	37	52	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	25	61	71	0	0
	Through						
	Right Turn	150	31	60	68	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	68	108	133	0	0
	Right Turn	300	66	118	138	0	0
WB	Left Turn	400	27	63	82	0	0
	Through	873	24	57	67	0	0
	Right Turn						

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,090	128	209	232	0	0
	Through	1,090	34	73	93	0	0
	Right Turn	1,000	73	146	195	0	0
SB	Left Turn	520	17	43	56	0	0
	Through	1,217	66	122	151	0	0
	Right Turn	720	72	142	178	0	0
EB	Left Turn	800	93	152	171	0	0
	Through	1,066	133	221	248	0	0
	Right Turn	1,000	85	157	210	0	0
WB	Left Turn	1,590	95	152	171	0	0
	Through	1,590	114	190	212	0	0
	Right Turn	850	25	63	84	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	9	34	42	0	0
	Through	1,487	20	53	64	0	0
	Right Turn	1,487	20	53	64	0	0
SB	Left Turn	797	30	64	80	0	0
	Through	797	30	64	80	0	0
	Right Turn	300	47	80	97	0	0
EB	Left Turn	300	10	38	60	0	0
	Through						
	Right Turn						
WB	Left Turn	300	1	9	18	0	0
	Through	5,346	0	2	2	0	0
	Right Turn	5,346	0	2	2	0	0

Intersection 18 **Bentley Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,498	24	54	69	4	0
	Through	1,498	24	54	69	4	0
	Right Turn	20	11	**38**	**51**	1	0
SB	Left Turn	1,216	21	49	59	3	0
	Through	1,216	21	49	59	3	0
	Right Turn	20	10	**39**	**60**	1	0
EB	Left Turn	2,720	2	16	34	0	0
	Through	2,720	2	16	34	0	0
	Right Turn	2,720	2	16	34	0	0
WB	Left Turn	2,487	6	25	40	0	0
	Through	2,487	6	25	40	0	0
	Right Turn	2,487	6	25	40	0	0

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	49	91	105	0	0
	Through	1,264	49	93	124	0	0
	Right Turn	1,264	49	93	124	0	0
SB	Left Turn	100	43	87	**108**	1	0
	Through	1,626	20	51	60	0	0
	Right Turn	75	35	63	**77**	0	0
EB	Left Turn	250	50	93	112	0	0
	Through	1,565	65	131	168	0	0
	Right Turn	1,565	77	142	181	0	0
WB	Left Turn	250	23	54	57	0	0
	Through	2,560	112	179	206	0	0
	Right Turn	300	73	140	176	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	181	279	309	0	0
	Through	1,934	184	275	313	1	0
	Right Turn	300	54	121	171	0	0
SB	Left Turn	5,862	279	424	468	0	0
	Through	5,862	279	424	468	0	0
	Right Turn	5,862	236	370	403	0	0
EB	Left Turn	50	**90**	**131**	**110**	55	0
	Through	2,671	182	341	437	34	0
	Right Turn	200	158	**253**	**260**	2	0
WB	Left Turn	300	73	175	240	0	0
	Through	2,545	188	314	377	2	0
	Right Turn	2,545	105	193	250	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	61	105	136	0	0
	Through	1,873	80	155	205	19	0
	Right Turn	50	**64**	**117**	**110**	4	0
SB	Left Turn	100	36	77	96	0	0
	Through	2,914	67	123	163	3	0
	Right Turn	100	44	87	**119**	0	0
EB	Left Turn	250	51	98	122	0	0
	Through	1,994	87	152	174	0	0
	Right Turn	1,994	90	164	199	0	0
WB	Left Turn	200	59	112	140	0	0
	Through	2,690	76	132	149	0	0
	Right Turn	2,690	83	146	170	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	25	62	79	0	0
	Through	1,498	136	221	254	0	0
	Right Turn	300	116	207	228	0	0
SB	Left Turn	400	170	281	313	0	0
	Through	2,123	71	156	200	0	0
	Right Turn	2,123	91	177	216	0	0
EB	Left Turn	225	52	107	140	0	0
	Through	5,602	64	119	137	0	0
	Right Turn	225	9	36	49	0	0
WB	Left Turn	225	8	32	49	0	0
	Through	2,237	17	50	74	0	0
	Right Turn	225	59	107	148	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	34	78	105	0	0
	Through	1,326	90	159	186	0	0
	Right Turn	1,326	53	120	170	0	0
SB	Left Turn	350	10	37	58	0	0
	Through	1,404	92	152	173	0	0
	Right Turn	350	12	40	56	0	0
EB	Left Turn	225	7	27	38	0	0
	Through	1,997	56	107	126	0	0
	Right Turn	225	27	53	62	0	0
WB	Left Turn	175	19	52	75	0	0
	Through	2,609	49	106	142	0	0
	Right Turn	2,609	49	106	142	0	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	8	31	45	0	0
	Through	1,357	63	110	137	0	0
	Right Turn	700	49	87	109	0	0
SB	Left Turn	600	26	64	86	0	0
	Through	1,181	87	141	160	0	0
	Right Turn	600	60	101	125	0	0
EB	Left Turn	500	94	153	179	0	0
	Through						
	Right Turn	500	72	125	149	0	0
WB	Left Turn	500	52	91	105	0	0
	Through						
	Right Turn	350	80	142	167	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 25 **Roselle & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	42	93	120	0	0
	Through	671	52	117	155	0	0
	Right Turn	400	21	62	88	0	0
SB	Left Turn	550	24	60	85	0	0
	Through	1,058	45	89	108	0	0
	Right Turn	550	3	17	37	0	0
EB	Left Turn	500	17	45	65	0	0
	Through						
	Right Turn	1,221	101	172	203	0	0
WB	Left Turn	1,142	35	68	80	0	0
	Through						
	Right Turn	1,142	46	96	131	0	0

Intersection 26 **Crane Rd & NCC** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	150	8	28	43	0	0
	Through	914	23	59	80	0	0
	Right Turn	300	18	43	58	0	0
SB	Left Turn	275	24	60	74	0	0
	Through	2,754	29	69	90	0	0
	Right Turn	2,754	66	112	134	0	0
EB	Left Turn	1,598	101	164	196	0	0
	Through	1,598	52	103	129	0	0
	Right Turn	630	5	22	42	0	0
WB	Left Turn	930	75	139	169	0	0
	Through	1,342	89	151	183	0	0
	Right Turn	630	15	42	66	0	0

Intersection 27 **Albers Rd & NCC** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	9	30	47	0	0
	Through	2,123	82	153	175	0	0
	Right Turn	300	43	88	110	0	0
SB	Left Turn	200	26	68	87	0	0
	Through	2,192	153	243	275	2	0
	Right Turn	500	53	95	112	0	0
EB	Left Turn	1,587	111	195	233	0	0
	Through	1,587	23	61	86	0	0
	Right Turn	750	2	16	37	0	0
WB	Left Turn	720	73	138	164	0	0
	Through	4,561	46	87	107	0	0
	Right Turn	670	5	19	33	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	180	181	100.6%	29.2	0.0	C
	Through	60	63	105.0%	20.2	0.0	C
	Right Turn	20	20	100.0%	6.9	0.0	A
	Subtotal	**260**	**264**	**101.5%**	**25.4**	**0.0**	**C**
SB	Left Turn	20	22	110.0%	35.3	0.0	D
	Through	80	78	97.5%	30.1	0.0	C
	Right Turn	50	51	102.0%	14.5	0.0	B
	Subtotal	**150**	**151**	**100.7%**	**25.6**	**0.0**	**C**
EB	Left Turn	40	36	90.0%	34.5	0.0	C
	Through	640	646	100.9%	22.3	0.0	C
	Right Turn	110	111	100.9%	6.9	0.0	A
	Subtotal	**790**	**793**	**100.4%**	**20.7**	**0.0**	**C**
WB	Left Turn	170	174	102.4%	35.3	0.0	D
	Through	950	951	100.1%	20.0	0.0	B
	Right Turn	50	51	102.0%	9.8	0.0	A
	Subtotal	**1,170**	**1,176**	**100.5%**	**21.8**	**0.0**	**C**
Total		**2,370**	**2,384**	**100.6%**	**22.1**	**0.0**	**C**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	90	90	100.0%	21.7	0.0	C
	Through	70	70	100.0%	18.2	0.0	B
	Right Turn	120	117	97.5%	2.2	0.0	A
	Subtotal	**280**	**277**	**98.9%**	**12.6**	**0.0**	**B**
SB	Left Turn	30	28	93.3%	26.0	0.0	C
	Through	100	101	101.0%	22.0	0.0	C
	Right Turn	50	51	102.0%	7.5	0.0	A
	Subtotal	**180**	**180**	**100.0%**	**18.5**	**0.0**	**B**
EB	Left Turn	30	29	96.7%	34.7	0.0	C
	Through	430	433	100.7%	22.7	0.0	C
	Right Turn	220	227	103.2%	15.4	0.0	B
	Subtotal	**680**	**689**	**101.3%**	**20.8**	**0.0**	**C**
WB	Left Turn	360	360	100.0%	27.9	0.0	C
	Through	1,030	1,042	101.2%	13.0	0.0	B
	Right Turn	20	19	95.0%	3.6	0.0	A
	Subtotal	**1,410**	**1,421**	**100.8%**	**16.6**	**0.0**	**B**
Total		**2,550**	**2,567**	**100.7%**	**17.5**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	19	95.0%	50.2	0.0	D
	Through	300	306	102.0%	32.7	0.0	C
	Right Turn	10	10	100.0%	19.4	0.0	B
	Subtotal	**330**	**335**	**101.5%**	**33.3**	**0.0**	**C**
SB	Left Turn	70	66	94.3%	48.7	0.0	D
	Through	440	438	99.5%	32.8	0.0	C
	Right Turn	220	229	104.1%	27.5	0.0	C
	Subtotal	**730**	**733**	**100.4%**	**32.6**	**0.0**	**C**
EB	Left Turn	130	133	102.3%	47.8	0.0	D
	Through	150	147	98.0%	21.9	0.0	C
	Right Turn	40	42	105.0%	12.4	0.0	B
	Subtotal	**320**	**322**	**100.6%**	**31.4**	**0.0**	**C**
WB	Left Turn	10	10	100.0%	59.8	0.0	E
	Through	420	431	102.6%	35.8	0.0	D
	Right Turn	130	126	96.9%	13.2	0.0	B
	Subtotal	**560**	**567**	**101.3%**	**31.2**	**0.0**	**C**
Total		**1,940**	**1,957**	**100.9%**	**32.1**	**0.0**	**C**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	320	324	101.3%	7.9	0.0	A
	Right Turn	90	96	106.7%	0.2	0.0	A
	Subtotal	**410**	**420**	**102.4%**	**6.1**	**0.0**	**A**
SB	Left Turn						
	Through	490	492	100.4%	12.5	0.0	B
	Right Turn						
	Subtotal	**490**	**492**	**100.4%**	**12.5**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	230	230	100.0%	16.5	0.0	B
	Through	10	13	130.0%	5.1	0.0	A
	Right Turn						
	Subtotal	**240**	**243**	**101.3%**	**15.9**	**0.0**	**B**
Total		**1,140**	**1,155**	**101.3%**	**10.9**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	90	95	105.6%	4.0	0.0	A
	Subtotal	**90**	**95**	**105.6%**	**4.0**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	220	211	95.9%	11.3	0.0	B
	Right Turn	10	12	120.0%	4.4	0.0	A
	Subtotal	**230**	**223**	**97.0%**	**10.9**	**0.0**	**B**
WB	Left Turn	230	231	100.4%	15.7	0.0	B
	Through	560	563	100.5%	6.1	0.0	A
	Right Turn						
	Subtotal	**790**	**794**	**100.5%**	**8.9**	**0.0**	**A**
Total		**1,110**	**1,112**	**100.2%**	**8.9**	**0.0**	**A**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	90	91	101.1%	19.7	0.0	B
	Through	300	296	98.7%	11.9	0.0	B
	Right Turn	90	92	102.2%	4.3	0.0	A
	Subtotal	**480**	**479**	**99.8%**	**11.9**	**0.0**	**B**
SB	Left Turn	40	38	95.0%	16.8	0.0	B
	Through	500	496	99.2%	12.1	0.0	B
	Right Turn	210	224	106.7%	6.3	0.0	A
	Subtotal	**750**	**758**	**101.1%**	**10.6**	**0.0**	**B**
EB	Left Turn	50	47	94.0%	15.6	0.0	B
	Through						
	Right Turn	110	108	98.2%	18.5	0.0	B
	Subtotal	**160**	**155**	**96.9%**	**17.6**	**0.0**	**B**
WB	Left Turn	230	230	100.0%	19.5	0.0	B
	Through						
	Right Turn	210	219	104.3%	19.9	0.0	B
	Subtotal	**440**	**449**	**102.0%**	**19.7**	**0.0**	**B**
Total		**1,830**	**1,841**	**100.6%**	**13.8**	**0.0**	**B**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	190	179	94.2%	45.3	0.0	D
	Through	670	685	102.2%	31.0	0.0	C
	Right Turn	120	119	99.2%	7.3	0.0	A
	Subtotal	**980**	**983**	**100.3%**	**30.7**	**0.0**	**C**
SB	Left Turn	100	102	102.0%	42.1	0.0	D
	Through	560	556	99.3%	29.2	0.0	C
	Right Turn	130	133	102.3%	14.4	0.0	B
	Subtotal	**790**	**791**	**100.1%**	**28.4**	**0.0**	**C**
EB	Left Turn	260	258	99.2%	47.4	0.0	D
	Through	600	616	102.7%	31.5	0.0	C
	Right Turn	180	188	104.4%	6.8	0.0	A
	Subtotal	**1,040**	**1,062**	**102.1%**	**31.0**	**0.0**	**C**
WB	Left Turn	210	213	101.4%	47.2	0.0	D
	Through	960	958	99.8%	35.7	0.0	D
	Right Turn	280	283	101.1%	12.5	0.0	B
	Subtotal	**1,450**	**1,454**	**100.3%**	**32.9**	**0.0**	**C**
Total		**4,260**	**4,290**	**100.7%**	**31.1**	**0.0**	**C**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	320	324	101.3%	19.5	0.0	B
	Through	180	181	100.6%	4.8	0.0	A
	Right Turn	200	205	102.5%	2.6	0.0	A
	Subtotal	**700**	**710**	**101.4%**	**10.9**	**0.0**	**B**
SB	Left Turn	20	20	100.0%	27.3	0.0	C
	Through	270	267	98.9%	15.8	0.0	B
	Right Turn	270	274	101.5%	11.6	0.0	B
	Subtotal	**560**	**561**	**100.2%**	**14.2**	**0.0**	**B**
EB	Left Turn	40	39	97.5%	24.3	0.0	C
	Through						
	Right Turn	70	69	98.6%	11.9	0.0	B
	Subtotal	**110**	**108**	**98.2%**	**16.4**	**0.0**	**B**
WB	Left Turn	270	266	98.5%	20.9	0.0	C
	Through						
	Right Turn	20	20	100.0%	29.6	0.0	C
	Subtotal	**290**	**286**	**98.6%**	**21.5**	**0.0**	**C**
Total		**1,660**	**1,665**	**100.3%**	**14.2**	**0.0**	**B**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	380	382	100.5%	31.6	0.0	C
	Through	370	375	101.4%	14.1	0.0	B
	Right Turn	60	61	101.7%	7.0	0.0	A
	Subtotal	**810**	**818**	**101.0%**	**21.7**	**0.0**	**C**
SB	Left Turn	30	30	100.0%	37.8	0.0	D
	Through	400	398	99.5%	28.6	0.0	C
	Right Turn	210	220	104.8%	10.3	0.0	B
	Subtotal	**640**	**648**	**101.3%**	**22.8**	**0.0**	**C**
EB	Left Turn	130	129	99.2%	44.1	0.0	D
	Through	370	368	99.5%	23.8	0.0	C
	Right Turn	220	215	97.7%	7.5	0.0	A
	Subtotal	**720**	**712**	**98.9%**	**22.6**	**0.0**	**C**
WB	Left Turn	80	77	96.3%	39.5	0.0	D
	Through	850	847	99.6%	32.0	0.0	C
	Right Turn	60	65	108.3%	11.9	0.0	B
	Subtotal	**990**	**989**	**99.9%**	**31.3**	**0.0**	**C**
Total		**3,160**	**3,167**	**100.2%**	**25.1**	**0.0**	**C**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	120	114	95.0%	39.9	0.0	D
	Through	50	47	94.0%	29.3	0.0	C
	Right Turn	90	92	102.2%	30.4	0.0	C
	Subtotal	**260**	**253**	**97.3%**	**34.5**	**0.0**	**C**
SB	Left Turn	50	43	86.0%	45.7	0.0	D
	Through	90	88	97.8%	35.8	0.0	D
	Right Turn	80	83	103.8%	8.5	0.0	A
	Subtotal	**220**	**214**	**97.3%**	**27.2**	**0.0**	**C**
EB	Left Turn	30	29	96.7%	42.7	0.0	D
	Through	290	284	97.9%	13.4	0.0	B
	Right Turn	50	53	106.0%	6.2	0.0	A
	Subtotal	**370**	**366**	**98.9%**	**14.7**	**0.0**	**B**
WB	Left Turn	180	171	95.0%	41.9	0.0	D
	Through	590	586	99.3%	13.0	0.0	B
	Right Turn	40	41	102.5%	9.5	0.0	A
	Subtotal	**810**	**798**	**98.5%**	**19.0**	**0.0**	**B**
Total		**1,660**	**1,631**	**98.3%**	**21.5**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	31	103.3%	35.0	0.0	C
	Through	230	229	99.6%	16.6	0.0	B
	Right Turn	230	235	102.2%	6.1	0.0	A
	Subtotal	**490**	**495**	**101.0%**	**12.8**	**0.0**	**B**
SB	Left Turn	40	39	97.5%	33.2	0.0	C
	Through	500	502	100.4%	18.3	0.0	B
	Right Turn	40	40	100.0%	13.3	0.0	B
	Subtotal	**580**	**581**	**100.2%**	**19.0**	**0.0**	**B**
EB	Left Turn	80	85	106.3%	23.1	0.0	C
	Through	20	22	110.0%	39.6	0.0	D
	Right Turn	70	67	95.7%	7.2	0.0	A
	Subtotal	**170**	**174**	**102.4%**	**19.1**	**0.0**	**B**
WB	Left Turn	390	378	96.9%	24.1	0.0	C
	Through	10	11	110.0%	36.6	0.0	D
	Right Turn	50	51	102.0%	3.4	0.0	A
	Subtotal	**450**	**440**	**97.8%**	**22.0**	**0.0**	**C**
Total		**1,690**	**1,690**	**100.0%**	**18.0**	**0.0**	**B**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	570	577	101.2%	33.6	0.0	C
	Through	370	371	100.3%	8.8	0.0	A
	Right Turn	20	20	100.0%	3.5	0.0	A
	Subtotal	**960**	**968**	**100.8%**	**23.5**	**0.0**	**C**
SB	Left Turn	10	9	90.0%	42.5	0.0	D
	Through	610	600	98.4%	31.8	0.0	C
	Right Turn	290	299	103.1%	7.8	0.0	A
	Subtotal	**910**	**908**	**99.8%**	**24.0**	**0.0**	**C**
EB	Left Turn	160	163	101.9%	53.3	0.0	D
	Through	110	108	98.2%	26.0	0.0	C
	Right Turn	200	202	101.0%	2.1	0.0	A
	Subtotal	**470**	**473**	**100.6%**	**25.2**	**0.0**	**C**
WB	Left Turn	10	10	100.0%	42.9	0.0	D
	Through	210	210	100.0%	36.8	0.0	D
	Right Turn	10	11	110.0%	3.7	0.0	A
	Subtotal	**230**	**231**	**100.4%**	**35.5**	**0.0**	**D**
Total		**2,570**	**2,580**	**100.4%**	**25.1**	**0.0**	**C**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	49	98.0%	28.7	0.0	C
	Through	190	191	100.5%	33.3	0.0	C
	Right Turn	40	39	97.5%	22.3	0.0	C
	Subtotal	**280**	**279**	**99.6%**	**31.0**	**0.0**	**C**
SB	Left Turn	160	160	100.0%	31.7	0.0	C
	Through	130	133	102.3%	30.3	0.0	C
	Right Turn	150	156	104.0%	7.8	0.0	A
	Subtotal	**440**	**449**	**102.0%**	**23.0**	**0.0**	**C**
EB	Left Turn	120	118	98.3%	35.7	0.0	D
	Through	220	223	101.4%	20.2	0.0	C
	Right Turn	20	23	115.0%	13.3	0.0	B
	Subtotal	**360**	**364**	**101.1%**	**24.8**	**0.0**	**C**
WB	Left Turn	20	20	100.0%	56.5	0.0	E
	Through	320	320	100.0%	35.5	0.0	D
	Right Turn	180	180	100.0%	15.1	0.0	B
	Subtotal	**520**	**520**	**100.0%**	**29.2**	**0.0**	**C**
Total		**1,600**	**1,612**	**100.8%**	**26.8**	**0.0**	**C**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	20	19	95.0%	4.4	0.0	A
	Through	270	268	99.3%	2.7	0.0	A
	Right Turn	20	18	90.0%	1.2	0.0	A
	Subtotal	**310**	**305**	**98.4%**	**2.7**	**0.0**	**A**
SB	Left Turn	20	19	95.0%	2.9	0.0	A
	Through	370	369	99.7%	0.7	0.0	A
	Right Turn	10	9	90.0%	0.2	0.0	A
	Subtotal	**400**	**397**	**99.3%**	**0.8**	**0.0**	**A**
EB	Left Turn	30	29	96.7%	12.3	0.0	B
	Through	50	49	98.0%	13.4	0.0	B
	Right Turn	140	144	102.9%	5.1	0.0	A
	Subtotal	**220**	**222**	**100.9%**	**7.9**	**0.0**	**A**
WB	Left Turn	40	39	97.5%	10.5	0.0	B
	Through	50	48	96.0%	13.8	0.0	B
	Right Turn	30	30	100.0%	2.4	0.0	A
	Subtotal	**120**	**117**	**97.5%**	**9.8**	**0.0**	**A**
Total		**1,050**	**1,041**	**99.1%**	**3.9**	**0.0**	**A**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	80	80	100.0%	14.3	0.0	B
	Through						
	Right Turn	170	168	98.8%	4.4	0.0	A
	Subtotal	**250**	**248**	**99.2%**	**7.6**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	230	235	102.2%	10.8	0.0	B
	Right Turn	140	135	96.4%	5.1	0.0	A
	Subtotal	**370**	**370**	**100.0%**	**8.7**	**0.0**	**A**
WB	Left Turn	200	197	98.5%	15.0	0.0	B
	Through	450	451	100.2%	3.8	0.0	A
	Right Turn						
	Subtotal	**650**	**648**	**99.7%**	**7.2**	**0.0**	**A**
Total		**1,270**	**1,266**	**99.7%**	**7.7**	**0.0**	**A**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	130	126	96.9%	29.2	0.0	C
	Through	180	180	100.0%	19.8	0.0	B
	Right Turn	90	88	97.8%	2.5	0.0	A
	Subtotal	**400**	**394**	**98.5%**	**18.9**	**0.0**	**B**
SB	Left Turn	30	28	93.3%	32.1	0.0	C
	Through	180	180	100.0%	31.2	0.0	C
	Right Turn	300	298	99.3%	10.0	0.0	A
	Subtotal	**510**	**506**	**99.2%**	**18.8**	**0.0**	**B**
EB	Left Turn	190	197	103.7%	24.4	0.0	C
	Through	770	771	100.1%	17.6	0.0	B
	Right Turn	150	144	96.0%	3.2	0.0	A
	Subtotal	**1,110**	**1,112**	**100.2%**	**16.9**	**0.0**	**B**
WB	Left Turn	120	125	104.2%	28.2	0.0	C
	Through	580	576	99.3%	19.0	0.0	B
	Right Turn	40	39	97.5%	3.6	0.0	A
	Subtotal	**740**	**740**	**100.0%**	**19.7**	**0.0**	**B**
Total		**2,760**	**2,752**	**99.7%**	**18.3**	**0.0**	**B**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	60	60	100.0%	6.2	0.0	A
	Through						
	Right Turn	120	120	100.0%	3.2	0.0	A
	Subtotal	**180**	**180**	**100.0%**	**4.2**	**0.0**	**A**
EB	Left Turn	70	66	94.3%	1.8	0.0	A
	Through	130	127	97.7%	1.1	0.0	A
	Right Turn						
	Subtotal	**200**	**193**	**96.5%**	**1.3**	**0.0**	**A**
WB	Left Turn						
	Through	160	150	93.8%	2.6	0.0	A
	Right Turn	40	40	100.0%	1.5	0.0	A
	Subtotal	**200**	**190**	**95.0%**	**2.4**	**0.0**	**A**
Total		**580**	**563**	**97.1%**	**2.6**	**0.0**	**A**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	67	95.7%	27.8	0.0	D
	Through	40	41	102.5%	15.1	0.0	C
	Right Turn	20	24	120.0%	5.8	0.0	A
	Subtotal	**130**	**132**	**101.5%**	**19.9**	**0.0**	**C**
SB	Left Turn	10	11	110.0%	30.4	0.0	D
	Through	80	79	98.8%	21.9	0.0	C
	Right Turn	20	20	100.0%	5.8	0.0	A
	Subtotal	**110**	**110**	**100.0%**	**19.8**	**0.0**	**C**
EB	Left Turn	100	100	100.0%	28.2	0.0	D
	Through	730	727	99.6%	11.7	0.0	B
	Right Turn	60	61	101.7%	3.6	0.0	A
	Subtotal	**890**	**888**	**99.8%**	**13.0**	**0.0**	**B**
WB	Left Turn	20	20	100.0%	29.3	0.0	D
	Through	650	658	101.2%	18.1	0.0	C
	Right Turn	10	10	100.0%	4.0	0.0	A
	Subtotal	**680**	**688**	**101.2%**	**18.2**	**0.0**	**C**
Total		**1,810**	**1,818**	**100.4%**	**15.9**	**0.0**	**C**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	90	89	98.9%	16.2	0.0	B
	Through	60	60	100.0%	10.8	0.0	B
	Right Turn	20	24	120.0%	5.1	0.0	A
	Subtotal	**170**	**173**	**101.8%**	**12.8**	**0.0**	**B**
SB	Left Turn	110	107	97.3%	15.5	0.0	B
	Through	60	56	93.3%	11.6	0.0	B
	Right Turn	140	141	100.7%	4.5	0.0	A
	Subtotal	**310**	**304**	**98.1%**	**9.7**	**0.0**	**A**
EB	Left Turn	70	70	100.0%	20.4	0.0	C
	Through	280	278	99.3%	9.4	0.0	A
	Right Turn	50	50	100.0%	4.8	0.0	A
	Subtotal	**400**	**398**	**99.5%**	**10.8**	**0.0**	**B**
WB	Left Turn	40	36	90.0%	21.7	0.0	C
	Through	130	130	100.0%	11.6	0.0	B
	Right Turn	70	69	98.6%	4.8	0.0	A
	Subtotal	**240**	**235**	**97.9%**	**11.2**	**0.0**	**B**
Total		**1,120**	**1,110**	**99.1%**	**10.9**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	96	96.0%	33.0	0.0	C
	Through	320	314	98.1%	32.8	0.0	C
	Right Turn	70	70	100.0%	6.7	0.0	A
	Subtotal	**490**	**480**	**98.0%**	**29.0**	**0.0**	**C**
SB	Left Turn	290	288	99.3%	35.1	0.0	D
	Through	430	430	100.0%	30.2	0.0	C
	Right Turn	20	18	90.0%	22.3	0.0	C
	Subtotal	**740**	**736**	**99.5%**	**31.9**	**0.0**	**C**
EB	Left Turn	70	73	104.3%	49.7	0.0	D
	Through	240	244	101.7%	29.2	0.0	C
	Right Turn	80	81	101.3%	18.6	0.0	B
	Subtotal	**390**	**398**	**102.1%**	**30.8**	**0.0**	**C**
WB	Left Turn	70	65	92.9%	41.1	0.0	D
	Through	160	151	94.4%	28.2	0.0	C
	Right Turn	290	295	101.7%	8.6	0.0	A
	Subtotal	**520**	**511**	**98.3%**	**18.5**	**0.0**	**B**
Total		**2,140**	**2,125**	**99.3%**	**27.8**	**0.0**	**C**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	260	254	97.7%	29.1	0.0	C
	Through	110	110	100.0%	18.6	0.0	B
	Right Turn	80	83	103.8%	5.8	0.0	A
	Subtotal	**450**	**447**	**99.3%**	**22.2**	**0.0**	**C**
SB	Left Turn	30	28	93.3%	33.3	0.0	C
	Through	150	152	101.3%	27.4	0.0	C
	Right Turn	80	83	103.8%	9.1	0.0	A
	Subtotal	**260**	**263**	**101.2%**	**22.3**	**0.0**	**C**
EB	Left Turn	50	48	96.0%	32.5	0.0	C
	Through	210	211	100.5%	19.4	0.0	B
	Right Turn	150	160	106.7%	9.8	0.0	A
	Subtotal	**410**	**419**	**102.2%**	**17.2**	**0.0**	**B**
WB	Left Turn	150	149	99.3%	31.0	0.0	C
	Through	230	233	101.3%	14.7	0.0	B
	Right Turn	40	41	102.5%	7.3	0.0	A
	Subtotal	**420**	**423**	**100.7%**	**19.7**	**0.0**	**B**
Total		**1,540**	**1,552**	**100.8%**	**20.2**	**0.0**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	50	100.0%	39.2	0.0	D
	Through	790	785	99.4%	22.7	0.0	C
	Right Turn	40	37	92.5%	7.0	0.0	A
	Subtotal	**880**	**872**	**99.1%**	**23.0**	**0.0**	**C**
SB	Left Turn	90	90	100.0%	38.1	0.0	D
	Through	760	758	99.7%	21.6	0.0	C
	Right Turn	80	84	105.0%	16.4	0.0	B
	Subtotal	**930**	**932**	**100.2%**	**22.7**	**0.0**	**C**
EB	Left Turn	70	66	94.3%	33.9	0.0	C
	Through	30	30	100.0%	35.3	0.0	D
	Right Turn	50	52	104.0%	9.3	0.0	A
	Subtotal	**150**	**148**	**98.7%**	**25.5**	**0.0**	**C**
WB	Left Turn	70	74	105.7%	29.2	0.0	C
	Through	140	137	97.9%	29.0	0.0	C
	Right Turn	140	138	98.6%	10.1	0.0	B
	Subtotal	**350**	**349**	**99.7%**	**21.6**	**0.0**	**C**
Total		**2,310**	**2,301**	**99.6%**	**22.8**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	20	18	90.0%	16.1	0.0	B
	Through	410	408	99.5%	5.5	0.0	A
	Right Turn	80	79	98.8%	2.1	0.0	A
	Subtotal	**510**	**505**	**99.0%**	**5.3**	**0.0**	**A**
SB	Left Turn	10	9	90.0%	14.4	0.0	B
	Through	520	519	99.8%	5.9	0.0	A
	Right Turn	30	28	93.3%	3.3	0.0	A
	Subtotal	**560**	**556**	**99.3%**	**5.9**	**0.0**	**A**
EB	Left Turn	20	21	105.0%	17.5	0.0	B
	Through	10	10	100.0%	18.2	0.0	B
	Right Turn	20	20	100.0%	2.7	0.0	A
	Subtotal	**50**	**51**	**102.0%**	**11.8**	**0.0**	**B**
WB	Left Turn	30	29	96.7%	17.1	0.0	B
	Through	10	10	100.0%	14.7	0.0	B
	Right Turn	10	10	100.0%	2.7	0.0	A
	Subtotal	**50**	**49**	**98.0%**	**13.7**	**0.0**	**B**
Total		**1,170**	**1,161**	**99.2%**	**6.3**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	30	31	103.3%	19.5	0.0	B
	Through	410	418	102.0%	5.3	0.0	A
	Right Turn	370	370	100.0%	4.5	0.0	A
	Subtotal	**810**	**819**	**101.1%**	**5.5**	**0.0**	**A**
SB	Left Turn	30	28	93.3%	23.6	0.0	C
	Through	590	582	98.6%	8.4	0.0	A
	Right Turn	340	339	99.7%	6.5	0.0	A
	Subtotal	**960**	**949**	**98.9%**	**8.2**	**0.0**	**A**
EB	Left Turn	50	51	102.0%	17.3	0.0	B
	Through						
	Right Turn	30	32	106.7%	17.7	0.0	B
	Subtotal	**80**	**83**	**103.8%**	**17.5**	**0.0**	**B**
WB	Left Turn	130	128	98.5%	16.6	0.0	B
	Through						
	Right Turn	30	27	90.0%	19.3	0.0	B
	Subtotal	**160**	**155**	**96.9%**	**17.1**	**0.0**	**B**
Total		**2,010**	**2,006**	**99.8%**	**8.1**	**0.0**	**A**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	150	142	94.7%	16.5	0.0	B
	Through	260	254	97.7%	6.1	0.0	A
	Right Turn	190	194	102.1%	3.5	0.0	A
	Subtotal	**600**	**590**	**98.3%**	**7.7**	**0.0**	**A**
SB	Left Turn	40	42	105.0%	21.0	0.0	C
	Through	460	458	99.6%	10.6	0.0	B
	Right Turn	50	53	106.0%	3.8	0.0	A
	Subtotal	**550**	**553**	**100.5%**	**10.7**	**0.0**	**B**
EB	Left Turn	10	9	90.0%	15.9	0.0	B
	Through						
	Right Turn	90	90	100.0%	13.7	0.0	B
	Subtotal	**100**	**99**	**99.0%**	**13.9**	**0.0**	**B**
WB	Left Turn	130	132	101.5%	16.6	0.0	B
	Through						
	Right Turn	40	43	107.5%	15.2	0.0	B
	Subtotal	**170**	**175**	**102.9%**	**16.3**	**0.0**	**B**
Total		**1,420**	**1,417**	**99.8%**	**10.4**	**0.0**	**B**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	Does Not Exist in this Scenario					
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total							

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	10	8	80.0%	40.7	0.0	D
	Through	250	243	97.2%	22.7	0.0	C
	Right Turn	230	230	100.0%	6.8	0.0	A
	Subtotal	**490**	**481**	**98.2%**	**15.4**	**0.0**	**B**
SB	Left Turn	30	31	103.3%	41.3	0.0	D
	Through	320	323	100.9%	26.0	0.0	C
	Right Turn	530	534	100.8%	10.9	0.0	B
	Subtotal	**880**	**888**	**100.9%**	**17.5**	**0.0**	**B**
EB	Left Turn	600	596	99.3%	25.4	0.0	C
	Through	130	132	101.5%	16.6	0.0	B
	Right Turn	30	31	103.3%	4.1	0.0	A
	Subtotal	**760**	**759**	**99.9%**	**23.0**	**0.0**	**C**
WB	Left Turn	210	208	99.0%	28.9	0.0	C
	Through	170	176	103.5%	23.0	0.0	C
	Right Turn						
	Subtotal	**380**	**384**	**101.1%**	**26.2**	**0.0**	**C**
Total		**2,510**	**2,512**	**100.1%**	**20.1**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	104	181	215	0	0
	Through	2,428	32	77	112	0	0
	Right Turn	2,428	32	77	112	0	0
SB	Left Turn	300	18	55	83	0	0
	Through	2,373	68	133	170	0	0
	Right Turn	2,373	68	133	170	0	0
EB	Left Turn	530	30	73	96	0	0
	Through	3,295	108	179	206	0	0
	Right Turn	410	40	77	93	0	0
WB	Left Turn	580	113	201	239	0	0
	Through	2,518	128	208	229	0	0
	Right Turn	530	18	47	63	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	25	51	67	0	0
	Through	923	24	53	65	0	0
	Right Turn						
SB	Left Turn	550	21	55	80	0	0
	Through	3,946	31	61	79	0	0
	Right Turn	3,946	21	53	67	0	0
EB	Left Turn	715	26	66	90	0	0
	Through	2,518	76	145	164	0	0
	Right Turn	355	69	135	158	0	0
WB	Left Turn	920	98	156	181	0	0
	Through	2,590	106	186	233	0	0
	Right Turn	750	7	29	48	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	20	55	70	0	0
	Through	464	102	182	215	1	0
	Right Turn	464	98	171	197	0	0
SB	Left Turn	290	59	123	154	0	0
	Through	5,159	153	261	290	0	0
	Right Turn	5,159	200	319	336	0	0
EB	Left Turn	250	111	201	**252**	0	0
	Through	5,459	85	173	219	0	0
	Right Turn	5,459	85	173	219	0	0
WB	Left Turn	90	14	55	**91**	0	0
	Through	491	296	485	485	42	2
	Right Turn	160	110	**259**	**220**	0	0

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	73	142	169	0	0
	Right Turn						
SB	Left Turn						
	Through	464	94	195	222	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	100	164	180	0	0
	Through						
	Right Turn	672	100	164	180	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	22	53	63	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	76	157	205	0	0
	Right Turn	491	76	157	205	0	0
WB	Left Turn	530	84	140	164	0	0
	Through	3,699	15	108	132	0	0
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	48	101	119	0	0
	Through	737	50	92	115	0	0
	Right Turn	737	19	48	64	0	0
SB	Left Turn	550	24	65	86	0	0
	Through	1,038	63	109	124	0	0
	Right Turn	650	53	99	133	0	0
EB	Left Turn	300	25	57	67	0	0
	Through						
	Right Turn	1,111	65	122	148	0	0
WB	Left Turn	300	53	99	115	0	0
	Through						
	Right Turn	1,079	110	184	218	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	85	142	159	0	0
	Through	3,853	148	223	246	1	0
	Right Turn	200	39	90	130	0	0
SB	Left Turn	500	70	128	154	0	0
	Through	1,480	170	248	275	0	0
	Right Turn	1,480	103	187	195	0	0
EB	Left Turn	350	113	181	202	0	0
	Through	4,930	131	201	225	0	0
	Right Turn	350	57	98	117	0	0
WB	Left Turn	300	210	162	186	0	0
	Through	5,967	196	292	322	0	0
	Right Turn	350	111	225	250	0	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	131	221	269	0	0
	Through	902	16	112	152	0	0
	Right Turn	600	19	53	75	0	0
SB	Left Turn	650	18	49	65	0	0
	Through	952	62	111	134	0	0
	Right Turn	650	85	163	216	0	0
EB	Left Turn	500	16	44	60	0	0
	Through						
	Right Turn	860	32	72	88	0	0
WB	Left Turn	880	70	116	145	0	0
	Through						
	Right Turn	880	19	56	76	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	168	259	287	0	0
	Through	1,262	83	157	197	0	0
	Right Turn	1,262	65	130	172	0	0
SB	Left Turn	300	28	66	85	0	0
	Through	1,262	156	240	270	0	0
	Right Turn	300	77	141	178	0	0
EB	Left Turn	300	79	144	175	0	0
	Through	1,409	113	191	227	0	0
	Right Turn	300	48	99	132	0	0
WB	Left Turn	300	66	141	182	0	0
	Through	3,308	184	270	294	0	0
	Right Turn	3,308	127	227	240	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	88	158	183	0	0
	Through	2,570	38	93	119	0	0
	Right Turn	2,570	70	132	162	0	0
SB	Left Turn	150	44	96	128	0	0
	Through	2,170	75	146	177	11	0
	Right Turn	75	49	**104**	**131**	1	0
EB	Left Turn	525	27	71	91	0	0
	Through	2,722	65	121	150	0	0
	Right Turn	2,722	58	120	154	0	0
WB	Left Turn	625	74	115	127	0	0
	Through	3,227	84	160	197	0	0
	Right Turn	3,227	100	184	235	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	29	71	99	0	0
	Through	1,181	56	109	136	0	0
	Right Turn	1,181	58	102	126	0	0
SB	Left Turn	315	30	74	98	0	0
	Through	3,988	81	155	190	0	0
	Right Turn	3,988	125	215	247	0	0
EB	Left Turn	410	54	115	146	0	0
	Through	1,731	21	58	79	0	0
	Right Turn	1,731	35	71	88	0	0
WB	Left Turn	1,878	135	220	248	0	0
	Through	1,878	8	28	42	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	198	280	308	0	0
	Through	2,052	65	118	138	0	0
	Right Turn	2,052	46	108	135	0	0
SB	Left Turn	300	9	32	45	0	0
	Through	564	216	319	354	1	0
	Right Turn	300	70	127	160	0	0
EB	Left Turn	1,374	101	175	192	0	0
	Through	1,374	41	88	111	0	0
	Right Turn						
WB	Left Turn	300	11	36	53	0	0
	Through	1,274	98	159	188	0	0
	Right Turn	300	7	28	44	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	38	94	132	0	0
	Through	1,227	146	258	299	2	0
	Right Turn	1,227	146	258	299	2	0
SB	Left Turn	175	98	**181**	**215**	1	0
	Through	1,669	92	208	309	7	0
	Right Turn	100	62	**123**	**159**	0	0
EB	Left Turn	3,220	79	149	180	0	0
	Through	3,220	102	189	227	0	0
	Right Turn	3,220	102	189	227	0	0
WB	Left Turn	75	27	**84**	**127**	1	0
	Through	3,356	216	406	522	40	0
	Right Turn	150	107	**229**	**210**	0	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	6	27	41	0	0
	Through	1,058	0	6	10	0	0
	Right Turn						
SB	Left Turn	300	5	27	49	0	0
	Through	414	0	4	6	0	0
	Right Turn	414	1	7	14	0	0
EB	Left Turn	300	22	54	68	0	0
	Through	1,163	34	75	94	0	0
	Right Turn	300	54	90	102	0	0
WB	Left Turn	300	25	59	80	0	0
	Through	1,019	27	57	73	0	0
	Right Turn	300	18	45	58	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	44	86	111	0	0
	Through						
	Right Turn	150	46	75	81	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	61	103	123	0	0
	Right Turn	300	61	104	116	0	0
WB	Left Turn	400	83	147	192	0	0
	Through	873	35	82	100	0	0
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,090	48	92	115	0	0
	Through	1,090	46	96	120	0	0
	Right Turn	1,000	24	54	69	0	0
SB	Left Turn	520	17	42	55	0	0
	Through	1,218	58	109	135	0	0
	Right Turn	720	72	143	196	0	0
EB	Left Turn	800	75	127	152	0	0
	Through	1,066	126	199	230	0	0
	Right Turn	1,000	35	70	85	0	0
WB	Left Turn	1,607	42	83	101	0	0
	Through	1,607	80	138	164	0	0
	Right Turn	850	10	33	50	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn	826	33	67	83	0	0
	Through						
	Right Turn	300	42	68	76	0	0
EB	Left Turn	300	11	42	59	0	0
	Through						
	Right Turn						
WB	Left Turn						
	Through	5,348	1	9	15	0	0
	Right Turn	5,348	1	9	15	0	0

Intersection 18 **Bentley Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	48	97	130	0	0
	Through	1,461	20	56	72	0	0
	Right Turn	300	10	34	48	0	0
SB	Left Turn	150	9	31	43	0	0
	Through	1,179	42	90	113	0	0
	Right Turn	200	9	34	60	0	0
EB	Left Turn	680	63	122	155	0	0
	Through	2,743	84	151	176	0	0
	Right Turn	580	14	41	60	0	0
WB	Left Turn	770	16	44	60	0	0
	Through	2,396	106	182	230	0	0
	Right Turn	720	4	18	31	0	0

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	52	98	118	0	0
	Through	1,264	43	86	103	0	0
	Right Turn	1,264	43	86	103	0	0
SB	Left Turn	100	52	100	**125**	1	0
	Through	1,626	29	71	91	1	0
	Right Turn	75	45	**84**	**109**	1	0
EB	Left Turn	250	42	92	122	0	0
	Through	1,565	36	77	102	0	0
	Right Turn	1,565	50	100	123	0	0
WB	Left Turn	250	31	74	96	0	0
	Through	2,560	46	88	105	0	0
	Right Turn	300	35	77	94	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	136	219	262	0	0
	Through	1,934	137	217	259	0	0
	Right Turn	300	37	74	91	0	0
SB	Left Turn	5,862	215	324	357	0	0
	Through	5,862	215	324	357	0	0
	Right Turn	5,862	177	282	312	0	0
EB	Left Turn	50	**65**	**115**	**110**	27	0
	Through	2,671	95	185	247	29	0
	Right Turn	200	106	180	**221**	1	0
WB	Left Turn	300	53	107	141	0	0
	Through	2,545	84	158	197	0	0
	Right Turn	2,545	78	160	220	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	99	160	194	0	0
	Through	1,873	61	131	170	13	0
	Right Turn	50	40	**90**	**109**	1	0
SB	Left Turn	100	30	77	**105**	0	0
	Through	2,914	98	183	226	9	0
	Right Turn	100	50	**113**	**152**	0	0
EB	Left Turn	250	37	81	107	0	0
	Through	1,994	61	110	131	0	0
	Right Turn	1,994	73	136	162	0	0
WB	Left Turn	200	92	171	**206**	1	0
	Through	2,690	47	104	148	0	0
	Right Turn	2,690	51	110	136	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	43	96	125	0	0
	Through	1,385	160	253	278	0	0
	Right Turn	300	17	50	72	0	0
SB	Left Turn	400	63	123	167	0	0
	Through	2,186	140	247	286	0	0
	Right Turn	2,186	164	266	305	0	0
EB	Left Turn	225	52	109	136	0	0
	Through	5,602	20	53	70	0	0
	Right Turn	225	35	75	91	0	0
WB	Left Turn	225	50	104	131	0	0
	Through	2,173	48	99	128	0	0
	Right Turn	225	41	87	115	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	13	40	59	0	0
	Through	1,326	46	101	135	0	0
	Right Turn	1,326	26	67	90	0	0
SB	Left Turn	350	9	33	43	0	0
	Through	1,404	59	110	132	0	0
	Right Turn	350	9	34	51	0	0
EB	Left Turn	225	16	45	60	0	0
	Through	1,997	7	28	47	0	0
	Right Turn	225	10	32	50	0	0
WB	Left Turn	175	24	62	80	0	0
	Through	2,609	14	42	58	0	0
	Right Turn	2,609	14	42	58	0	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	24	58	72	0	0
	Through	1,357	41	90	109	0	0
	Right Turn	700	61	108	131	0	0
SB	Left Turn	600	19	57	79	0	0
	Through	1,181	63	122	147	0	0
	Right Turn	600	60	113	149	0	0
EB	Left Turn	500	27	64	80	0	0
	Through						
	Right Turn	500	25	62	88	0	0
WB	Left Turn	500	41	78	95	0	0
	Through						
	Right Turn	350	22	57	74	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 25 **Roselle & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	57	112	138	0	0
	Through	671	32	76	94	0	0
	Right Turn	400	19	52	71	0	0
SB	Left Turn	550	21	55	86	0	0
	Through	1,058	51	100	129	0	0
	Right Turn	550	5	25	46	0	0
EB	Left Turn	500	3	15	25	0	0
	Through						
	Right Turn	1,221	50	97	125	0	0
WB	Left Turn	1,142	43	76	88	0	0
	Through						
	Right Turn	1,142	28	66	78	0	0

Intersection 27 **NCC & Albers Rd** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	6	25	44	0	0
	Through	2,741	107	205	251	1	0
	Right Turn	300	47	91	118	0	0
SB	Left Turn	200	16	50	66	0	0
	Through	1,385	111	224	265	2	0
	Right Turn						
EB	Left Turn	920	131	224	274	0	0
	Through	1,128	32	72	83	0	0
	Right Turn	580	16	49	73	0	0
WB	Left Turn	720	61	109	129	0	0
	Through	3,079	44	90	106	0	0
	Right Turn	580	18	48	62	0	0

Intersection 28 **NCC & Sterns Connection** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	Not Analyzed with SimTraffic					
	Through						
	Right Turn						
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn						
	Through						
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	83	103.8%	29.8	0.0	C
	Through	90	89	98.9%	24.8	0.0	C
	Right Turn	100	97	97.0%	11.6	0.0	B
	Subtotal	**270**	**269**	**99.6%**	**21.6**	**0.0**	**C**
SB	Left Turn	60	57	95.0%	29.7	0.0	C
	Through	80	81	101.3%	26.8	0.0	C
	Right Turn	10	11	110.0%	13.5	0.0	B
	Subtotal	**150**	**149**	**99.3%**	**26.9**	**0.0**	**C**
EB	Left Turn	40	40	100.0%	32.6	0.0	C
	Through	970	963	99.3%	17.7	0.0	B
	Right Turn	150	156	104.0%	5.9	0.0	A
	Subtotal	**1,160**	**1,159**	**99.9%**	**16.6**	**0.0**	**B**
WB	Left Turn	90	85	94.4%	35.2	0.0	D
	Through	960	966	100.6%	16.9	0.0	B
	Right Turn	40	44	110.0%	7.4	0.0	A
	Subtotal	**1,090**	**1,095**	**100.5%**	**17.9**	**0.0**	**B**
Total		**2,670**	**2,672**	**100.1%**	**18.2**	**0.0**	**B**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	250	252	100.8%	23.0	0.0	C
	Through	160	155	96.9%	19.8	0.0	B
	Right Turn	480	482	100.4%	4.7	0.0	A
	Subtotal	**890**	**889**	**99.9%**	**12.5**	**0.0**	**B**
SB	Left Turn	70	70	100.0%	29.6	0.0	C
	Through	140	145	103.6%	26.1	0.0	C
	Right Turn	20	20	100.0%	7.0	0.0	A
	Subtotal	**230**	**235**	**102.2%**	**25.5**	**0.0**	**C**
EB	Left Turn	20	17	85.0%	36.2	0.0	D
	Through	940	936	99.6%	29.3	0.0	C
	Right Turn	170	171	100.6%	14.6	0.0	B
	Subtotal	**1,130**	**1,124**	**99.5%**	**27.2**	**0.0**	**C**
WB	Left Turn	310	310	100.0%	30.1	0.0	C
	Through	820	1,595	194.5%	6.3	0.0	A
	Right Turn	40	39	97.5%	3.2	0.0	A
	Subtotal	**1,170**	**1,944**	**166.2%**	**10.0**	**0.0**	**A**
Total		**3,420**	**4,192**	**122.6%**	**16.0**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	60	56	93.3%	51.6	0.0	D
	Through	430	437	101.6%	35.5	0.0	D
	Right Turn	10	10	100.0%	27.4	0.0	C
	Subtotal	**500**	**503**	**100.6%**	**37.1**	**0.0**	**D**
SB	Left Turn	220	213	96.8%	72.0	0.0	E
	Through	480	478	99.6%	33.1	0.0	C
	Right Turn	190	188	98.9%	26.1	0.0	C
	Subtotal	**890**	**879**	**98.8%**	**41.0**	**0.0**	**D**
EB	Left Turn	190	188	98.9%	73.5	0.0	E
	Through	310	315	101.6%	33.4	0.0	C
	Right Turn	20	21	105.0%	25.5	0.0	C
	Subtotal	**520**	**524**	**100.8%**	**47.5**	**0.0**	**D**
WB	Left Turn	10	10	100.0%	60.9	0.0	E
	Through	310	304	98.1%	37.4	0.0	D
	Right Turn	90	98	108.9%	9.3	0.0	A
	Subtotal	**410**	**412**	**100.5%**	**31.3**	**0.0**	**C**
Total		**2,320**	**2,318**	**99.9%**	**39.9**	**0.0**	**D**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	490	489	99.8%	7.9	0.0	A
	Right Turn	260	268	103.1%	0.7	0.0	A
	Subtotal	**750**	**757**	**100.9%**	**5.4**	**0.0**	**A**
SB	Left Turn						
	Through	510	508	99.6%	11.8	0.0	B
	Right Turn						
	Subtotal	**510**	**508**	**99.6%**	**11.8**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	100	100	100.0%	16.0	0.0	B
	Through	10	12	120.0%	4.7	0.0	A
	Right Turn						
	Subtotal	**110**	**112**	**101.8%**	**14.8**	**0.0**	**B**
Total		**1,370**	**1,377**	**100.5%**	**8.5**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	260	269	103.5%	7.1	0.0	A
	Subtotal	**260**	**269**	**103.5%**	**7.1**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	530	527	99.4%	24.3	0.0	C
	Right Turn	10	10	100.0%	11.3	0.0	B
	Subtotal	**540**	**537**	**99.4%**	**24.1**	**0.0**	**C**
WB	Left Turn	100	102	102.0%	17.9	0.0	B
	Through	410	410	100.0%	3.4	0.0	A
	Right Turn						
	Subtotal	**510**	**512**	**100.4%**	**6.3**	**0.0**	**A**
Total		**1,310**	**1,318**	**100.6%**	**13.7**	**0.0**	**B**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	130	129	99.2%	17.3	0.0	B
	Through	580	583	100.5%	11.9	0.0	B
	Right Turn	430	427	99.3%	5.3	0.0	A
	Subtotal	**1,140**	**1,139**	**99.9%**	**10.0**	**0.0**	**A**
SB	Left Turn	100	102	102.0%	20.7	0.0	C
	Through	450	449	99.8%	17.1	0.0	B
	Right Turn	140	138	98.6%	7.5	0.0	A
	Subtotal	**690**	**689**	**99.9%**	**15.7**	**0.0**	**B**
EB	Left Turn	230	232	100.9%	19.8	0.0	B
	Through						
	Right Turn	200	200	100.0%	19.4	0.0	B
	Subtotal	**430**	**432**	**100.5%**	**19.6**	**0.0**	**B**
WB	Left Turn	200	192	96.0%	19.9	0.0	B
	Through						
	Right Turn	140	140	100.0%	21.4	0.0	C
	Subtotal	**340**	**332**	**97.6%**	**20.5**	**0.0**	**C**
Total		**2,600**	**2,592**	**99.7%**	**14.5**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	290	281	96.9%	46.0	0.0	D
	Through	910	914	100.4%	41.1	0.0	D
	Right Turn	290	291	100.3%	19.0	0.0	B
	Subtotal	**1,490**	**1,486**	**99.7%**	**37.7**	**0.0**	**D**
SB	Left Turn	490	482	98.4%	39.1	0.0	D
	Through	910	907	99.7%	26.2	0.0	C
	Right Turn	220	225	102.3%	19.8	0.0	B
	Subtotal	**1,620**	**1,614**	**99.6%**	**29.2**	**0.0**	**C**
EB	Left Turn	260	255	98.1%	40.2	0.0	D
	Through	980	980	100.0%	55.9	0.0	E
	Right Turn	370	368	99.5%	16.4	0.0	B
	Subtotal	**1,610**	**1,603**	**99.6%**	**44.3**	**0.0**	**D**
WB	Left Turn	270	269	99.6%	40.6	0.0	D
	Through	600	590	98.3%	31.2	0.0	C
	Right Turn	160	152	95.0%	4.3	0.0	A
	Subtotal	**1,030**	**1,011**	**98.2%**	**29.7**	**0.0**	**C**
Total		**5,750**	**5,714**	**99.4%**	**35.7**	**0.0**	**D**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	240	246	102.5%	18.9	0.0	B
	Through	200	203	101.5%	6.0	0.0	A
	Right Turn	290	291	100.3%	3.5	0.0	A
	Subtotal	**730**	**740**	**101.4%**	**9.3**	**0.0**	**A**
SB	Left Turn	20	20	100.0%	30.0	0.0	C
	Through	220	232	105.5%	16.8	0.0	B
	Right Turn	140	130	92.9%	7.1	0.0	A
	Subtotal	**380**	**382**	**100.5%**	**14.2**	**0.0**	**B**
EB	Left Turn	360	367	101.9%	17.5	0.0	B
	Through						
	Right Turn	130	127	97.7%	15.0	0.0	B
	Subtotal	**490**	**494**	**100.8%**	**16.9**	**0.0**	**B**
WB	Left Turn	220	221	100.5%	15.7	0.0	B
	Through						
	Right Turn	10	12	120.0%	30.5	0.0	C
	Subtotal	**230**	**233**	**101.3%**	**16.5**	**0.0**	**B**
Total		**1,830**	**1,849**	**101.0%**	**13.2**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	320	324	101.3%	30.7	0.0	C
	Through	400	403	100.8%	18.3	0.0	B
	Right Turn	80	80	100.0%	9.2	0.0	A
	Subtotal	**800**	**807**	**100.9%**	**22.4**	**0.0**	**C**
SB	Left Turn	60	57	95.0%	35.3	0.0	D
	Through	240	245	102.1%	27.8	0.0	C
	Right Turn	200	216	108.0%	8.8	0.0	A
	Subtotal	**500**	**518**	**103.6%**	**20.7**	**0.0**	**C**
EB	Left Turn	300	298	99.3%	36.4	0.0	D
	Through	940	940	100.0%	23.5	0.0	C
	Right Turn	400	397	99.3%	7.5	0.0	A
	Subtotal	**1,640**	**1,635**	**99.7%**	**22.0**	**0.0**	**C**
WB	Left Turn	60	58	96.7%	34.0	0.0	C
	Through	530	528	99.6%	26.7	0.0	C
	Right Turn	80	78	97.5%	8.4	0.0	A
	Subtotal	**670**	**664**	**99.1%**	**25.2**	**0.0**	**C**
Total		**3,610**	**3,624**	**100.4%**	**22.5**	**0.0**	**C**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	140	138	98.6%	45.9	0.0	D
	Through	80	80	100.0%	33.6	0.0	C
	Right Turn	280	268	95.7%	41.8	0.0	D
	Subtotal	**500**	**486**	**97.2%**	**41.6**	**0.0**	**D**
SB	Left Turn	50	48	96.0%	58.3	0.0	E
	Through	60	58	96.7%	43.5	0.0	D
	Right Turn	40	44	110.0%	6.8	0.0	A
	Subtotal	**150**	**150**	**100.0%**	**37.5**	**0.0**	**D**
EB	Left Turn	90	92	102.2%	51.7	0.0	D
	Through	620	609	98.2%	25.4	0.0	C
	Right Turn	130	126	96.9%	19.0	0.0	B
	Subtotal	**840**	**827**	**98.5%**	**27.4**	**0.0**	**C**
WB	Left Turn	370	369	99.7%	46.0	0.0	D
	Through	380	384	101.1%	18.0	0.0	B
	Right Turn	30	31	103.3%	12.5	0.0	B
	Subtotal	**780**	**784**	**100.5%**	**31.0**	**0.0**	**C**
Total		**2,270**	**2,247**	**99.0%**	**32.4**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	60	62	103.3%	37.6	0.0	D
	Through	490	476	97.1%	19.6	0.0	B
	Right Turn	360	354	98.3%	7.6	0.0	A
	Subtotal	**910**	**892**	**98.0%**	**16.1**	**0.0**	**B**
SB	Left Turn	60	58	96.7%	35.7	0.0	D
	Through	500	501	100.2%	20.2	0.0	C
	Right Turn	40	40	100.0%	15.7	0.0	B
	Subtotal	**600**	**599**	**99.8%**	**21.4**	**0.0**	**C**
EB	Left Turn	80	82	102.5%	24.8	0.0	C
	Through	20	20	100.0%	38.5	0.0	D
	Right Turn	100	97	97.0%	7.1	0.0	A
	Subtotal	**200**	**199**	**99.5%**	**17.5**	**0.0**	**B**
WB	Left Turn	360	359	99.7%	27.1	0.0	C
	Through	10	12	120.0%	40.7	0.0	D
	Right Turn	40	41	102.5%	3.4	0.0	A
	Subtotal	**410**	**412**	**100.5%**	**25.1**	**0.0**	**C**
Total		**2,120**	**2,102**	**99.2%**	**19.5**	**0.0**	**B**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	340	337	99.1%	32.2	0.0	C
	Through	680	688	101.2%	12.5	0.0	B
	Right Turn	40	43	107.5%	6.8	0.0	A
	Subtotal	**1,060**	**1,068**	**100.8%**	**18.5**	**0.0**	**B**
SB	Left Turn	20	18	90.0%	36.0	0.0	D
	Through	600	608	101.3%	25.6	0.0	C
	Right Turn	160	160	100.0%	6.2	0.0	A
	Subtotal	**780**	**786**	**100.8%**	**21.9**	**0.0**	**C**
EB	Left Turn	210	210	100.0%	39.8	0.0	D
	Through	290	280	96.6%	20.7	0.0	C
	Right Turn	650	664	102.2%	5.0	0.0	A
	Subtotal	**1,150**	**1,154**	**100.3%**	**15.1**	**0.0**	**B**
WB	Left Turn	20	15	75.0%	34.1	0.0	C
	Through	200	196	98.0%	29.5	0.0	C
	Right Turn	20	19	95.0%	4.8	0.0	A
	Subtotal	**240**	**230**	**95.8%**	**27.8**	**0.0**	**C**
Total		**3,230**	**3,238**	**100.2%**	**18.8**	**0.0**	**B**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	60	62	103.3%	37.1	0.0	D
	Through	220	220	100.0%	43.5	0.0	D
	Right Turn	30	29	96.7%	34.0	0.0	C
	Subtotal	**310**	**311**	**100.3%**	**41.3**	**0.0**	**D**
SB	Left Turn	220	215	97.7%	43.9	0.0	D
	Through	180	185	102.8%	44.1	0.0	D
	Right Turn	170	175	102.9%	12.4	0.0	B
	Subtotal	**570**	**575**	**100.9%**	**34.4**	**0.0**	**C**
EB	Left Turn	240	238	99.2%	46.4	0.0	D
	Through	460	463	100.7%	31.0	0.0	C
	Right Turn	30	32	106.7%	24.7	0.0	C
	Subtotal	**730**	**733**	**100.4%**	**35.7**	**0.0**	**D**
WB	Left Turn	30	28	93.3%	64.9	0.0	E
	Through	280	278	99.3%	44.3	0.0	D
	Right Turn	120	121	100.8%	16.3	0.0	B
	Subtotal	**430**	**427**	**99.3%**	**37.7**	**0.0**	**D**
Total		**2,040**	**2,046**	**100.3%**	**36.6**	**0.0**	**D**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	130	127	97.7%	6.3	0.0	A
	Through	370	364	98.4%	3.3	0.0	A
	Right Turn	20	22	110.0%	1.2	0.0	A
	Subtotal	**520**	**513**	**98.7%**	**4.0**	**0.0**	**A**
SB	Left Turn	30	28	93.3%	3.1	0.0	A
	Through	310	311	100.3%	0.8	0.0	A
	Right Turn	20	22	110.0%	0.2	0.0	A
	Subtotal	**360**	**361**	**100.3%**	**0.9**	**0.0**	**A**
EB	Left Turn	20	21	105.0%	16.7	0.0	B
	Through	50	46	92.0%	18.9	0.0	B
	Right Turn	100	101	101.0%	4.7	0.0	A
	Subtotal	**170**	**168**	**98.8%**	**10.1**	**0.0**	**B**
WB	Left Turn	50	46	92.0%	19.6	0.0	B
	Through	60	63	105.0%	18.3	0.0	B
	Right Turn	20	22	110.0%	2.5	0.0	A
	Subtotal	**130**	**131**	**100.8%**	**16.1**	**0.0**	**B**
Total		**1,180**	**1,173**	**99.4%**	**5.3**	**0.0**	**A**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	51	102.0%	22.5	0.0	C
	Through						
	Right Turn	200	198	99.0%	6.0	0.0	A
	Subtotal	**250**	**249**	**99.6%**	**9.4**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	560	555	99.1%	14.1	0.0	B
	Right Turn	210	211	100.5%	9.5	0.0	A
	Subtotal	**770**	**766**	**99.5%**	**12.8**	**0.0**	**B**
WB	Left Turn	240	247	102.9%	19.7	0.0	B
	Through	350	358	102.3%	3.0	0.0	A
	Right Turn						
	Subtotal	**590**	**605**	**102.5%**	**9.8**	**0.0**	**A**
Total		**1,610**	**1,620**	**100.6%**	**11.2**	**0.0**	**B**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	230	230	100.0%	27.6	0.0	C
	Through	130	138	106.2%	15.3	0.0	B
	Right Turn	200	199	99.5%	3.1	0.0	A
	Subtotal	**560**	**567**	**101.3%**	**16.0**	**0.0**	**B**
SB	Left Turn	40	41	102.5%	28.7	0.0	C
	Through	190	192	101.1%	26.1	0.0	C
	Right Turn	280	272	97.1%	9.3	0.0	A
	Subtotal	**510**	**505**	**99.0%**	**17.3**	**0.0**	**B**
EB	Left Turn	300	309	103.0%	26.2	0.0	C
	Through	660	651	98.6%	22.5	0.0	C
	Right Turn	200	203	101.5%	4.8	0.0	A
	Subtotal	**1,160**	**1,163**	**100.3%**	**20.4**	**0.0**	**C**
WB	Left Turn	240	237	98.8%	25.3	0.0	C
	Through	540	551	102.0%	21.6	0.0	C
	Right Turn	50	55	110.0%	4.0	0.0	A
	Subtotal	**830**	**843**	**101.6%**	**21.5**	**0.0**	**C**
Total		**3,060**	**3,078**	**100.6%**	**19.4**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	60	66	110.0%	9.6	0.0	A
	Through						
	Right Turn	120	120	100.0%	3.5	0.0	A
	Subtotal	**180**	**186**	**103.3%**	**5.7**	**0.0**	**A**
EB	Left Turn	190	199	104.7%	3.7	0.0	A
	Through	170	175	102.9%	2.2	0.0	A
	Right Turn						
	Subtotal	**360**	**374**	**103.9%**	**3.0**	**0.0**	**A**
WB	Left Turn						
	Through	160	159	99.4%	3.5	0.0	A
	Right Turn	50	54	108.0%	1.5	0.0	A
	Subtotal	**210**	**213**	**101.4%**	**3.0**	**0.0**	**A**
Total		**750**	**773**	**103.1%**	**3.6**	**0.0**	**A**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	28	93.3%	28.8	0.0	D
	Through	80	83	103.8%	15.8	0.0	C
	Right Turn	20	22	110.0%	6.1	0.0	A
	Subtotal	**130**	**133**	**102.3%**	**16.9**	**0.0**	**C**
SB	Left Turn	10	10	100.0%	27.7	0.0	D
	Through	70	75	107.1%	17.7	0.0	C
	Right Turn	120	125	104.2%	6.8	0.0	A
	Subtotal	**200**	**210**	**105.0%**	**11.7**	**0.0**	**B**
EB	Left Turn	30	28	93.3%	28.2	0.0	D
	Through	760	750	98.7%	15.0	0.0	B
	Right Turn	110	112	101.8%	4.5	0.0	A
	Subtotal	**900**	**890**	**98.9%**	**14.1**	**0.0**	**B**
WB	Left Turn	70	68	97.1%	23.8	0.0	C
	Through	680	673	99.0%	12.5	0.0	B
	Right Turn	10	10	100.0%	3.4	0.0	A
	Subtotal	**760**	**751**	**98.8%**	**13.4**	**0.0**	**B**
Total		**1,990**	**1,984**	**99.7%**	**13.8**	**0.0**	**B**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	90	89	98.9%	17.6	0.0	B
	Through	50	46	92.0%	14.2	0.0	B
	Right Turn	60	63	105.0%	5.8	0.0	A
	Subtotal	**200**	**198**	**99.0%**	**13.1**	**0.0**	**B**
SB	Left Turn	90	91	101.1%	18.0	0.0	B
	Through	40	38	95.0%	14.7	0.0	B
	Right Turn	90	90	100.0%	4.7	0.0	A
	Subtotal	**220**	**219**	**99.5%**	**12.0**	**0.0**	**B**
EB	Left Turn	90	88	97.8%	20.7	0.0	C
	Through	460	458	99.6%	9.1	0.0	A
	Right Turn	40	40	100.0%	5.2	0.0	A
	Subtotal	**590**	**586**	**99.3%**	**10.6**	**0.0**	**B**
WB	Left Turn	30	30	100.0%	23.4	0.0	C
	Through	430	424	98.6%	13.3	0.0	B
	Right Turn	70	66	94.3%	6.6	0.0	A
	Subtotal	**530**	**520**	**98.1%**	**13.0**	**0.0**	**B**
Total		**1,540**	**1,523**	**98.9%**	**11.9**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	120	121	100.8%	34.4	0.0	C
	Through	460	459	99.8%	35.8	0.0	D
	Right Turn	50	52	104.0%	7.4	0.0	A
	Subtotal	**630**	**632**	**100.3%**	**33.2**	**0.0**	**C**
SB	Left Turn	300	298	99.3%	41.1	0.0	D
	Through	410	395	96.3%	36.1	0.0	D
	Right Turn	70	65	92.9%	28.0	0.0	C
	Subtotal	**780**	**758**	**97.2%**	**37.4**	**0.0**	**D**
EB	Left Turn	60	63	105.0%	64.8	0.0	E
	Through	300	313	104.3%	28.7	0.0	C
	Right Turn	70	72	102.9%	18.6	0.0	B
	Subtotal	**430**	**448**	**104.2%**	**32.2**	**0.0**	**C**
WB	Left Turn	20	19	95.0%	43.7	0.0	D
	Through	240	242	100.8%	37.3	0.0	D
	Right Turn	360	358	99.4%	12.7	0.0	B
	Subtotal	**620**	**619**	**99.8%**	**23.3**	**0.0**	**C**
Total		**2,460**	**2,457**	**99.9%**	**31.8**	**0.0**	**C**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	140	145	103.6%	28.6	0.0	C
	Through	170	166	97.6%	22.2	0.0	C
	Right Turn	190	184	96.8%	7.4	0.0	A
	Subtotal	**500**	**495**	**99.0%**	**18.6**	**0.0**	**B**
SB	Left Turn	80	77	96.3%	31.8	0.0	C
	Through	120	121	100.8%	25.1	0.0	C
	Right Turn	80	81	101.3%	8.2	0.0	A
	Subtotal	**280**	**279**	**99.6%**	**22.0**	**0.0**	**C**
EB	Left Turn	70	69	98.6%	30.9	0.0	C
	Through	270	266	98.5%	17.6	0.0	B
	Right Turn	180	177	98.3%	8.6	0.0	A
	Subtotal	**520**	**512**	**98.5%**	**16.3**	**0.0**	**B**
WB	Left Turn	110	105	95.5%	29.7	0.0	C
	Through	350	352	100.6%	16.4	0.0	B
	Right Turn	80	81	101.3%	9.2	0.0	A
	Subtotal	**540**	**538**	**99.6%**	**17.9**	**0.0**	**B**
Total		**1,840**	**1,824**	**99.1%**	**18.3**	**0.0**	**B**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	48	96.0%	35.1	0.0	D
	Through	730	727	99.6%	29.2	0.0	C
	Right Turn	70	72	102.9%	8.5	0.0	A
	Subtotal	**850**	**847**	**99.6%**	**27.8**	**0.0**	**C**
SB	Left Turn	180	178	98.9%	36.8	0.0	D
	Through	750	748	99.7%	23.6	0.0	C
	Right Turn	80	83	103.8%	18.2	0.0	B
	Subtotal	**1,010**	**1,009**	**99.9%**	**25.5**	**0.0**	**C**
EB	Left Turn	110	105	95.5%	37.2	0.0	D
	Through	170	165	97.1%	28.8	0.0	C
	Right Turn	50	50	100.0%	14.7	0.0	B
	Subtotal	**330**	**320**	**97.0%**	**29.4**	**0.0**	**C**
WB	Left Turn	50	49	98.0%	32.7	0.0	C
	Through	60	58	96.7%	32.5	0.0	C
	Right Turn	120	123	102.5%	9.2	0.0	A
	Subtotal	**230**	**230**	**100.0%**	**20.1**	**0.0**	**C**
Total		**2,420**	**2,406**	**99.4%**	**26.3**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	20	22	110.0%	19.3	0.0	B
	Through	530	521	98.3%	7.3	0.0	A
	Right Turn	40	37	92.5%	2.6	0.0	A
	Subtotal	**590**	**580**	**98.3%**	**7.5**	**0.0**	**A**
SB	Left Turn	20	21	105.0%	19.9	0.0	B
	Through	380	379	99.7%	6.7	0.0	A
	Right Turn	20	21	105.0%	3.6	0.0	A
	Subtotal	**420**	**421**	**100.2%**	**7.2**	**0.0**	**A**
EB	Left Turn	10	10	100.0%	18.9	0.0	B
	Through	20	20	100.0%	19.6	0.0	B
	Right Turn	30	31	103.3%	2.7	0.0	A
	Subtotal	**60**	**61**	**101.7%**	**10.9**	**0.0**	**B**
WB	Left Turn	40	39	97.5%	18.9	0.0	B
	Through	20	22	110.0%	16.7	0.0	B
	Right Turn	10	12	120.0%	2.8	0.0	A
	Subtotal	**70**	**73**	**104.3%**	**15.6**	**0.0**	**B**
Total		**1,140**	**1,135**	**99.6%**	**8.1**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	3	10	333.3%	16.8	0.0	B
	Through	130	502	386.2%	9.7	0.0	A
	Right Turn	45	182	404.4%	3.9	0.0	A
	Subtotal	**178**	**694**	**389.9%**	**8.3**	**0.0**	**A**
SB	Left Turn	13	47	361.5%	22.7	0.0	C
	Through	155	617	398.1%	13.5	0.0	B
	Right Turn	73	288	394.5%	6.7	0.0	A
	Subtotal	**241**	**952**	**395.0%**	**11.9**	**0.0**	**B**
EB	Left Turn	80	315	393.8%	18.9	0.0	B
	Through						
	Right Turn	30	117	390.0%	23.0	0.0	C
	Subtotal	**110**	**432**	**392.7%**	**20.0**	**0.0**	**B**
WB	Left Turn	45	183	406.7%	16.2	0.0	B
	Through						
	Right Turn	18	73	405.6%	22.4	0.0	C
	Subtotal	**63**	**256**	**406.3%**	**18.0**	**0.0**	**B**
Total		**592**	**2,334**	**394.3%**	**13.0**	**0.0**	**B**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	30	127	423.3%	14.7	0.0	B
	Through	100	394	394.0%	7.3	0.0	A
	Right Turn	53	219	413.2%	3.9	0.0	A
	Subtotal	**183**	**740**	**404.4%**	**7.6**	**0.0**	**A**
SB	Left Turn	13	45	346.2%	23.4	0.0	C
	Through	95	382	402.1%	14.2	0.0	B
	Right Turn	8	31	387.5%	3.4	0.0	A
	Subtotal	**116**	**458**	**394.8%**	**14.4**	**0.0**	**B**
EB	Left Turn	13	51	392.3%	19.4	0.0	B
	Through						
	Right Turn	63	252	400.0%	15.9	0.0	B
	Subtotal	**76**	**303**	**398.7%**	**16.5**	**0.0**	**B**
WB	Left Turn	23	87	378.3%	18.2	0.0	B
	Through						
	Right Turn	18	68	377.8%	20.6	0.0	C
	Subtotal	**41**	**155**	**378.0%**	**19.3**	**0.0**	**B**
Total		**416**	**1,656**	**398.1%**	**12.2**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	Does Not Exist in this Scenario					
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total							

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	3	10	333.3%	33.0	0.0	C
	Through	50	199	398.0%	21.3	0.0	C
	Right Turn	75	312	416.0%	8.7	0.0	A
	Subtotal	**128**	**521**	**407.0%**	**14.0**	**0.0**	**B**
SB	Left Turn	8	28	350.0%	34.7	0.0	C
	Through	58	224	386.2%	22.7	0.0	C
	Right Turn	148	592	400.0%	12.4	0.0	B
	Subtotal	**214**	**844**	**394.4%**	**15.9**	**0.0**	**B**
EB	Left Turn	148	585	395.3%	20.7	0.0	C
	Through	48	181	377.1%	16.9	0.0	B
	Right Turn	3	12	400.0%	3.6	0.0	A
	Subtotal	**199**	**778**	**391.0%**	**19.6**	**0.0**	**B**
WB	Left Turn	55	222	403.6%	25.6	0.0	C
	Through	55	210	381.8%	20.3	0.0	C
	Right Turn						
	Subtotal	**110**	**432**	**392.7%**	**23.0**	**0.0**	**C**
Total		**651**	**2,575**	**395.5%**	**17.8**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	53	108	134	0	0
	Through	2,428	72	146	188	0	0
	Right Turn	2,428	72	146	188	0	0
SB	Left Turn	300	39	82	99	0	0
	Through	2,373	50	102	123	0	0
	Right Turn	2,373	50	102	123	0	0
EB	Left Turn	530	32	72	100	0	0
	Through	3,295	112	186	221	0	0
	Right Turn	410	43	80	103	0	0
WB	Left Turn	580	59	114	151	0	0
	Through	2,518	114	191	225	0	0
	Right Turn	530	15	46	63	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	55	98	118	0	0
	Through	923	38	70	84	0	0
	Right Turn						
SB	Left Turn	550	45	95	121	0	0
	Through	3,946	41	74	91	0	0
	Right Turn	3,946	12	35	52	0	0
EB	Left Turn	715	14	46	64	0	0
	Through	2,518	151	242	270	0	0
	Right Turn	355	47	95	119	0	0
WB	Left Turn	920	94	144	168	0	0
	Through	2,590	69	129	156	0	0
	Right Turn	750	12	38	50	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	56	122	183	0	0
	Through	464	142	239	299	4	0
	Right Turn	464	135	229	286	0	0
SB	Left Turn	290	186	**316**	**327**	7	0
	Through	5,159	170	345	404	0	0
	Right Turn	5,159	198	322	368	0	0
EB	Left Turn	250	171	**299**	**304**	7	0
	Through	5,459	198	419	501	2	0
	Right Turn	5,459	198	419	501	2	0
WB	Left Turn	90	18	74	**122**	0	0
	Through	491	202	332	411	37	0
	Right Turn	160	70	**189**	**220**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	87	159	194	0	0
	Right Turn						
SB	Left Turn						
	Through	464	86	194	234	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	53	102	123	0	0
	Through						
	Right Turn	672	53	102	123	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	55	107	134	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	222	383	444	0	0
	Right Turn	491	222	383	444	0	0
WB	Left Turn	530	53	99	118	0	0
	Through	3,699	0	6	8	0	0
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	57	112	140	0	0
	Through	737	69	124	148	0	0
	Right Turn	737	51	107	129	0	0
SB	Left Turn	550	55	114	154	0	0
	Through	1,038	65	114	135	0	0
	Right Turn	650	42	87	111	0	0
EB	Left Turn	300	63	108	124	0	0
	Through						
	Right Turn	1,111	96	166	194	0	0
WB	Left Turn	1,063	47	94	115	0	0
	Through						
	Right Turn	1,063	76	139	187	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	112	190	**261**	0	0
	Through	3,853	193	278	314	5	0
	Right Turn	200	119	**230**	**259**	1	0
SB	Left Turn	500	190	272	296	0	0
	Through	1,480	176	254	281	0	0
	Right Turn	1,480	177	276	309	0	0
EB	Left Turn	350	96	194	226	0	0
	Through	4,930	226	363	391	2	0
	Right Turn	350	111	223	264	0	0
WB	Left Turn	300	199	139	164	0	0
	Through	5,969	111	162	184	0	0
	Right Turn	350	29	92	124	0	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	99	175	208	0	0
	Through	892	18	46	63	0	0
	Right Turn	600	30	69	90	0	0
SB	Left Turn	650	16	44	61	0	0
	Through	952	55	99	117	0	0
	Right Turn	650	34	75	103	0	0
EB	Left Turn	500	74	123	139	0	0
	Through						
	Right Turn	860	58	115	152	0	0
WB	Left Turn	880	53	96	111	0	0
	Through						
	Right Turn	880	12	41	64	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	134	200	223	0	0
	Through	1,262	99	172	210	0	0
	Right Turn	1,262	75	145	173	0	0
SB	Left Turn	300	43	85	98	0	0
	Through	1,262	98	158	180	0	0
	Right Turn	300	91	161	199	0	0
EB	Left Turn	300	128	216	263	0	0
	Through	1,409	192	293	350	0	0
	Right Turn	300	67	121	154	0	0
WB	Left Turn	300	42	85	100	0	0
	Through	3,308	110	166	192	0	0
	Right Turn	3,308	49	106	147	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	109	182	197	0	0
	Through	2,570	58	124	158	0	0
	Right Turn	2,570	194	323	350	0	0
SB	Left Turn	150	52	113	131	1	0
	Through	2,170	56	115	143	8	0
	Right Turn	75	30	74	**109**	0	0
EB	Left Turn	525	77	141	169	0	0
	Through	2,722	160	253	305	0	0
	Right Turn	2,722	168	268	315	0	0
WB	Left Turn	625	134	204	229	0	0
	Through	3,227	68	128	164	0	0
	Right Turn	3,227	84	150	177	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	51	101	124	0	0
	Through	1,181	106	173	200	0	0
	Right Turn	1,181	71	119	145	0	0
SB	Left Turn	315	42	92	115	0	0
	Through	3,988	87	162	211	0	0
	Right Turn	3,988	130	215	247	0	0
EB	Left Turn	410	50	107	142	0	0
	Through	1,731	18	51	66	0	0
	Right Turn	1,731	40	78	100	0	0
WB	Left Turn	1,878	129	207	230	0	0
	Through	1,878	8	30	45	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	124	179	195	0	0
	Through	2,052	118	320	388	0	0
	Right Turn	2,052	93	165	200	0	0
SB	Left Turn	300	17	47	63	0	0
	Through	580	172	254	289	0	0
	Right Turn	300	65	118	156	0	0
EB	Left Turn	1,374	98	163	185	0	0
	Through	1,374	74	126	147	0	0
	Right Turn						
WB	Left Turn	300	15	44	59	0	0
	Through	1,274	78	130	149	0	0
	Right Turn	300	10	33	45	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	60	165	**258**	0	0
	Through	1,227	190	334	393	5	0
	Right Turn	1,227	190	334	393	5	0
SB	Left Turn	175	157	**254**	**234**	8	0
	Through	1,669	210	459	565	20	0
	Right Turn	100	92	**178**	**160**	1	0
EB	Left Turn	3,220	165	262	286	0	0
	Through	3,220	240	402	451	0	0
	Right Turn	3,220	240	402	451	0	0
WB	Left Turn	75	42	**114**	**134**	2	0
	Through	3,356	203	375	462	44	0
	Right Turn	150	79	**196**	**210**	0	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	29	63	78	0	0
	Through	1,058	1	8	16	0	0
	Right Turn	1,058	0	3	4	0	0
SB	Left Turn	300	10	33	48	0	0
	Through	414	1	9	18	0	0
	Right Turn	414	1	10	20	0	0
EB	Left Turn	300	18	49	62	0	0
	Through	1,163	36	79	95	0	0
	Right Turn	300	45	77	91	0	0
WB	Left Turn	300	31	71	91	0	0
	Through	1,019	33	69	85	0	0
	Right Turn	300	12	36	48	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	35	73	85	0	0
	Through						
	Right Turn	150	49	83	105	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	115	187	229	0	0
	Right Turn	300	116	192	226	0	0
WB	Left Turn	400	108	183	218	0	0
	Through	873	23	61	81	0	0
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,090	69	117	138	0	0
	Through	1,090	32	66	80	0	0
	Right Turn	1,000	36	68	87	0	0
SB	Left Turn	520	23	52	68	0	0
	Through	1,218	52	92	110	0	0
	Right Turn	720	61	117	149	0	0
EB	Left Turn	800	93	150	175	0	0
	Through	1,066	122	184	204	0	0
	Right Turn	1,000	48	95	120	0	0
WB	Left Turn	1,607	63	106	124	0	0
	Through	1,607	79	130	146	0	0
	Right Turn	850	12	36	54	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn	826	37	71	93	0	0
	Through						
	Right Turn	300	41	70	82	0	0
EB	Left Turn	300	31	72	90	0	0
	Through						
	Right Turn						
WB	Left Turn						
	Through	5,348	1	11	24	0	0
	Right Turn	5,348	1	11	24	0	0

Intersection 18 **Bentley Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	23	59	71	0	0
	Through	1,462	34	76	99	0	0
	Right Turn	300	8	27	39	0	0
SB	Left Turn	150	9	33	49	0	0
	Through	1,179	34	76	99	0	0
	Right Turn	200	36	78	112	0	0
EB	Left Turn	680	19	49	68	0	0
	Through	2,767	98	175	216	0	0
	Right Turn	580	23	57	79	0	0
WB	Left Turn	770	44	89	110	0	0
	Through	2,373	84	157	189	0	0
	Right Turn	720	3	16	31	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	47	87	100	0	0
	Through	1,264	43	81	100	0	0
	Right Turn	1,264	43	81	100	0	0
SB	Left Turn	100	42	83	**104**	1	0
	Through	1,626	20	51	60	0	0
	Right Turn	75	35	65	**80**	0	0
EB	Left Turn	250	43	81	96	0	0
	Through	1,565	50	103	139	0	0
	Right Turn	1,565	63	124	162	0	0
WB	Left Turn	250	23	55	67	0	0
	Through	2,560	96	153	174	0	0
	Right Turn	300	59	119	149	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	188	284	319	0	0
	Through	1,934	190	283	315	0	0
	Right Turn	300	31	90	135	0	0
SB	Left Turn	5,862	253	390	445	0	0
	Through	5,862	253	390	445	0	0
	Right Turn	5,862	208	328	364	0	0
EB	Left Turn	50	**65**	**120**	**109**	30	0
	Through	2,671	116	211	261	35	0
	Right Turn	200	121	200	**229**	1	0
WB	Left Turn	300	20	80	134	0	0
	Through	2,545	159	289	349	2	0
	Right Turn	2,545	107	204	259	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	61	106	136	0	0
	Through	1,873	81	156	205	23	0
	Right Turn	50	**67**	**117**	**110**	4	0
SB	Left Turn	100	55	**105**	**143**	1	0
	Through	2,914	72	139	176	4	0
	Right Turn	100	39	86	**134**	0	0
EB	Left Turn	250	40	82	110	0	0
	Through	1,994	69	126	152	0	0
	Right Turn	1,994	75	143	181	0	0
WB	Left Turn	200	58	108	130	0	0
	Through	2,690	65	115	138	0	0
	Right Turn	2,690	78	140	159	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	39	84	104	0	0
	Through	1,385	166	263	298	0	0
	Right Turn	300	32	70	89	0	0
SB	Left Turn	400	110	198	229	0	0
	Through	2,186	142	243	276	0	0
	Right Turn	2,186	179	275	305	0	0
EB	Left Turn	225	77	145	163	0	0
	Through	5,602	59	107	125	0	0
	Right Turn	225	61	110	135	0	0
WB	Left Turn	225	33	79	109	0	0
	Through	2,173	25	60	77	0	0
	Right Turn	225	35	76	103	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	17	52	81	0	0
	Through	1,326	64	122	151	0	0
	Right Turn	1,326	37	93	128	0	0
SB	Left Turn	350	19	54	78	0	0
	Through	1,404	57	110	137	0	0
	Right Turn	350	7	33	53	0	0
EB	Left Turn	225	7	26	41	0	0
	Through	1,997	13	40	60	0	0
	Right Turn	225	11	28	40	0	0
WB	Left Turn	175	26	63	78	0	0
	Through	2,609	21	56	74	0	0
	Right Turn	2,609	21	56	74	0	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	7	32	55	0	0
	Through	1,357	59	106	128	0	0
	Right Turn	700	41	75	92	0	0
SB	Left Turn	600	26	63	84	0	0
	Through	1,181	88	149	182	0	0
	Right Turn	600	56	92	115	0	0
EB	Left Turn	500	89	144	185	0	0
	Through						
	Right Turn	500	70	126	148	0	0
WB	Left Turn	500	43	81	97	0	0
	Through						
	Right Turn	350	49	100	130	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 25 **Roselle & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	47	103	133	0	0
	Through	671	51	116	150	0	0
	Right Turn	400	21	58	84	0	0
SB	Left Turn	550	23	59	84	0	0
	Through	1,058	55	104	129	0	0
	Right Turn	550	2	15	28	0	0
EB	Left Turn	500	19	51	73	0	0
	Through						
	Right Turn	1,221	108	186	211	0	0
WB	Left Turn	1,142	33	68	87	0	0
	Through						
	Right Turn	1,142	45	93	115	0	0

Intersection 27 **NCC & Albers Rd** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	7	27	39	0	0
	Through	2,741	81	154	198	0	0
	Right Turn	300	66	131	170	0	0
SB	Left Turn	200	12	37	51	0	0
	Through	1,385	67	154	188	0	0
	Right Turn	1,385	0	6	6	0	0
EB	Left Turn	920	111	191	242	0	0
	Through	1,128	36	80	101	0	0
	Right Turn	580	6	27	46	0	0
WB	Left Turn	720	59	101	126	0	0
	Through	2,928	41	84	106	0	0
	Right Turn	580	29	68	89	0	0

Intersection 28 **NCC & Sterns Connection** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	Not Analyzed with SimTraffic					
	Through						
	Right Turn						
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn						
	Through						
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	180	181	100.6%	29.6	0.0	C
	Through	60	62	103.3%	20.9	0.0	C
	Right Turn	20	23	115.0%	8.2	0.0	A
	Subtotal	**260**	**266**	**102.3%**	**25.7**	**0.0**	**C**
SB	Left Turn	20	18	90.0%	32.3	0.0	C
	Through	80	78	97.5%	31.6	0.0	C
	Right Turn	50	53	106.0%	14.5	0.0	B
	Subtotal	**150**	**149**	**99.3%**	**25.6**	**0.0**	**C**
EB	Left Turn	40	40	100.0%	33.9	0.0	C
	Through	640	640	100.0%	22.8	0.0	C
	Right Turn	110	112	101.8%	7.3	0.0	A
	Subtotal	**790**	**792**	**100.3%**	**21.2**	**0.0**	**C**
WB	Left Turn	170	173	101.8%	37.0	0.0	D
	Through	950	953	100.3%	20.8	0.0	C
	Right Turn	50	56	112.0%	9.4	0.0	A
	Subtotal	**1,170**	**1,182**	**101.0%**	**22.6**	**0.0**	**C**
Total		**2,370**	**2,389**	**100.8%**	**22.7**	**0.0**	**C**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	90	89	98.9%	22.1	0.0	C
	Through	70	73	104.3%	17.4	0.0	B
	Right Turn	120	122	101.7%	2.3	0.0	A
	Subtotal	**280**	**284**	**101.4%**	**12.4**	**0.0**	**B**
SB	Left Turn	30	27	90.0%	26.1	0.0	C
	Through	100	101	101.0%	22.5	0.0	C
	Right Turn	50	54	108.0%	7.5	0.0	A
	Subtotal	**180**	**182**	**101.1%**	**18.6**	**0.0**	**B**
EB	Left Turn	30	29	96.7%	36.3	0.0	D
	Through	430	428	99.5%	22.1	0.0	C
	Right Turn	220	227	103.2%	15.6	0.0	B
	Subtotal	**680**	**684**	**100.6%**	**20.5**	**0.0**	**C**
WB	Left Turn	360	353	98.1%	28.8	0.0	C
	Through	1,030	2,042	198.3%	8.0	0.0	A
	Right Turn	20	22	110.0%	3.3	0.0	A
	Subtotal	**1,410**	**2,417**	**171.4%**	**11.0**	**0.0**	**B**
Total		**2,550**	**3,567**	**139.9%**	**13.3**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	20	100.0%	48.5	0.0	D
	Through	300	304	101.3%	32.1	0.0	C
	Right Turn	10	11	110.0%	18.6	0.0	B
	Subtotal	**330**	**335**	**101.5%**	**32.6**	**0.0**	**C**
SB	Left Turn	70	72	102.9%	51.6	0.0	D
	Through	440	433	98.4%	31.2	0.0	C
	Right Turn	220	220	100.0%	25.1	0.0	C
	Subtotal	**730**	**725**	**99.3%**	**31.4**	**0.0**	**C**
EB	Left Turn	130	125	96.2%	46.5	0.0	D
	Through	150	148	98.7%	20.4	0.0	C
	Right Turn	40	42	105.0%	11.3	0.0	B
	Subtotal	**320**	**315**	**98.4%**	**29.5**	**0.0**	**C**
WB	Left Turn	10	9	90.0%	57.9	0.0	E
	Through	420	415	98.8%	32.1	0.0	C
	Right Turn	130	129	99.2%	10.5	0.0	B
	Subtotal	**560**	**553**	**98.8%**	**27.5**	**0.0**	**C**
Total		**1,940**	**1,928**	**99.4%**	**30.2**	**0.0**	**C**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	320	325	101.6%	7.8	0.0	A
	Right Turn	90	94	104.4%	0.2	0.0	A
	Subtotal	**410**	**419**	**102.2%**	**6.1**	**0.0**	**A**
SB	Left Turn						
	Through	490	483	98.6%	12.3	0.0	B
	Right Turn						
	Subtotal	**490**	**483**	**98.6%**	**12.3**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	230	226	98.3%	16.0	0.0	B
	Through	10	11	110.0%	5.6	0.0	A
	Right Turn						
	Subtotal	**240**	**237**	**98.8%**	**15.5**	**0.0**	**B**
Total		**1,140**	**1,139**	**99.9%**	**10.7**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	90	93	103.3%	4.0	0.0	A
	Subtotal	**90**	**93**	**103.3%**	**4.0**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	220	225	102.3%	10.2	0.0	B
	Right Turn	10	10	100.0%	4.0	0.0	A
	Subtotal	**230**	**235**	**102.2%**	**9.9**	**0.0**	**A**
WB	Left Turn	230	226	98.3%	15.5	0.0	B
	Through	560	549	98.0%	4.9	0.0	A
	Right Turn						
	Subtotal	**790**	**775**	**98.1%**	**8.0**	**0.0**	**A**
Total		**1,110**	**1,103**	**99.4%**	**8.1**	**0.0**	**A**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	90	94	104.4%	18.9	0.0	B
	Through	300	288	96.0%	12.4	0.0	B
	Right Turn	90	93	103.3%	4.6	0.0	A
	Subtotal	**480**	**475**	**99.0%**	**12.2**	**0.0**	**B**
SB	Left Turn	40	38	95.0%	17.2	0.0	B
	Through	500	491	98.2%	13.4	0.0	B
	Right Turn	210	213	101.4%	7.5	0.0	A
	Subtotal	**750**	**742**	**98.9%**	**11.9**	**0.0**	**B**
EB	Left Turn	50	49	98.0%	16.4	0.0	B
	Through						
	Right Turn	110	112	101.8%	18.5	0.0	B
	Subtotal	**160**	**161**	**100.6%**	**17.9**	**0.0**	**B**
WB	Left Turn	230	226	98.3%	18.8	0.0	B
	Through						
	Right Turn	210	212	101.0%	18.3	0.0	B
	Subtotal	**440**	**438**	**99.5%**	**18.6**	**0.0**	**B**
Total		**1,830**	**1,816**	**99.2%**	**14.1**	**0.0**	**B**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	190	197	103.7%	47.9	0.0	D
	Through	670	666	99.4%	28.4	0.0	C
	Right Turn	120	118	98.3%	7.2	0.0	A
	Subtotal	**980**	**981**	**100.1%**	**29.8**	**0.0**	**C**
SB	Left Turn	100	99	99.0%	41.0	0.0	D
	Through	560	570	101.8%	26.9	0.0	C
	Right Turn	130	133	102.3%	12.5	0.0	B
	Subtotal	**790**	**802**	**101.5%**	**26.3**	**0.0**	**C**
EB	Left Turn	260	257	98.8%	45.2	0.0	D
	Through	600	598	99.7%	28.9	0.0	C
	Right Turn	180	185	102.8%	6.7	0.0	A
	Subtotal	**1,040**	**1,040**	**100.0%**	**29.0**	**0.0**	**C**
WB	Left Turn	210	213	101.4%	45.8	0.0	D
	Through	960	965	100.5%	34.0	0.0	C
	Right Turn	280	283	101.1%	11.1	0.0	B
	Subtotal	**1,450**	**1,461**	**100.8%**	**31.3**	**0.0**	**C**
Total		**4,260**	**4,284**	**100.6%**	**29.4**	**0.0**	**C**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	320	318	99.4%	19.5	0.0	B
	Through	190	198	104.2%	4.9	0.0	A
	Right Turn	190	186	97.9%	2.4	0.0	A
	Subtotal	**700**	**702**	**100.3%**	**10.9**	**0.0**	**B**
SB	Left Turn	20	18	90.0%	26.7	0.0	C
	Through	270	271	100.4%	15.7	0.0	B
	Right Turn	270	270	100.0%	10.5	0.0	B
	Subtotal	**560**	**559**	**99.8%**	**13.5**	**0.0**	**B**
EB	Left Turn	40	38	95.0%	25.3	0.0	C
	Through						
	Right Turn	70	68	97.1%	12.1	0.0	B
	Subtotal	**110**	**106**	**96.4%**	**16.8**	**0.0**	**B**
WB	Left Turn	270	264	97.8%	20.0	0.0	B
	Through						
	Right Turn	20	20	100.0%	24.5	0.0	C
	Subtotal	**290**	**284**	**97.9%**	**20.3**	**0.0**	**C**
Total		**1,660**	**1,651**	**99.5%**	**13.8**	**0.0**	**B**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	380	380	100.0%	30.6	0.0	C
	Through	370	371	100.3%	14.7	0.0	B
	Right Turn	60	60	100.0%	6.3	0.0	A
	Subtotal	**810**	**811**	**100.1%**	**21.5**	**0.0**	**C**
SB	Left Turn	30	27	90.0%	40.5	0.0	D
	Through	400	400	100.0%	31.2	0.0	C
	Right Turn	210	218	103.8%	9.1	0.0	A
	Subtotal	**640**	**645**	**100.8%**	**24.1**	**0.0**	**C**
EB	Left Turn	130	129	99.2%	36.5	0.0	D
	Through	370	362	97.8%	21.0	0.0	C
	Right Turn	220	218	99.1%	6.8	0.0	A
	Subtotal	**720**	**709**	**98.5%**	**19.5**	**0.0**	**B**
WB	Left Turn	80	79	98.8%	37.1	0.0	D
	Through	850	848	99.8%	27.7	0.0	C
	Right Turn	60	63	105.0%	10.7	0.0	B
	Subtotal	**990**	**990**	**100.0%**	**27.4**	**0.0**	**C**
Total		**3,160**	**3,155**	**99.8%**	**23.4**	**0.0**	**C**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	120	116	96.7%	42.0	0.0	D
	Through	50	50	100.0%	30.2	0.0	C
	Right Turn	100	93	93.0%	31.4	0.0	C
	Subtotal	**270**	**259**	**95.9%**	**35.9**	**0.0**	**D**
SB	Left Turn	50	46	92.0%	42.0	0.0	D
	Through	90	90	100.0%	36.5	0.0	D
	Right Turn	80	84	105.0%	7.8	0.0	A
	Subtotal	**220**	**220**	**100.0%**	**26.7**	**0.0**	**C**
EB	Left Turn	30	27	90.0%	49.6	0.0	D
	Through	300	294	98.0%	13.5	0.0	B
	Right Turn	50	50	100.0%	6.1	0.0	A
	Subtotal	**380**	**371**	**97.6%**	**15.1**	**0.0**	**B**
WB	Left Turn	200	202	101.0%	40.0	0.0	D
	Through	590	592	100.3%	12.3	0.0	B
	Right Turn	40	43	107.5%	9.8	0.0	A
	Subtotal	**830**	**837**	**100.8%**	**18.9**	**0.0**	**B**
Total		**1,700**	**1,687**	**99.2%**	**21.7**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	31	103.3%	34.5	0.0	C
	Through	240	243	101.3%	16.9	0.0	B
	Right Turn	230	232	100.9%	6.3	0.0	A
	Subtotal	**500**	**506**	**101.2%**	**13.1**	**0.0**	**B**
SB	Left Turn	40	41	102.5%	34.0	0.0	C
	Through	520	529	101.7%	19.6	0.0	B
	Right Turn	40	37	92.5%	14.0	0.0	B
	Subtotal	**600**	**607**	**101.2%**	**20.2**	**0.0**	**C**
EB	Left Turn	80	78	97.5%	22.4	0.0	C
	Through	20	22	110.0%	37.3	0.0	D
	Right Turn	70	71	101.4%	6.8	0.0	A
	Subtotal	**170**	**171**	**100.6%**	**17.8**	**0.0**	**B**
WB	Left Turn	390	379	97.2%	23.6	0.0	C
	Through	10	11	110.0%	39.1	0.0	D
	Right Turn	50	51	102.0%	3.6	0.0	A
	Subtotal	**450**	**441**	**98.0%**	**21.7**	**0.0**	**C**
Total		**1,720**	**1,725**	**100.3%**	**18.3**	**0.0**	**B**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	570	585	102.6%	32.3	0.0	C
	Through	370	363	98.1%	8.6	0.0	A
	Right Turn	20	20	100.0%	2.6	0.0	A
	Subtotal	**960**	**968**	**100.8%**	**22.8**	**0.0**	**C**
SB	Left Turn	10	8	80.0%	44.2	0.0	D
	Through	610	605	99.2%	30.3	0.0	C
	Right Turn	290	300	103.4%	7.5	0.0	A
	Subtotal	**910**	**913**	**100.3%**	**22.9**	**0.0**	**C**
EB	Left Turn	160	159	99.4%	53.4	0.0	D
	Through	110	105	95.5%	22.4	0.0	C
	Right Turn	200	198	99.0%	2.0	0.0	A
	Subtotal	**470**	**462**	**98.3%**	**24.3**	**0.0**	**C**
WB	Left Turn	10	9	90.0%	38.2	0.0	D
	Through	210	212	101.0%	34.3	0.0	C
	Right Turn	10	11	110.0%	3.1	0.0	A
	Subtotal	**230**	**232**	**100.9%**	**33.0**	**0.0**	**C**
Total		**2,570**	**2,575**	**100.2%**	**24.0**	**0.0**	**C**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	54	108.0%	29.8	0.0	C
	Through	190	192	101.1%	35.1	0.0	D
	Right Turn	40	43	107.5%	25.3	0.0	C
	Subtotal	**280**	**289**	**103.2%**	**32.7**	**0.0**	**C**
SB	Left Turn	160	160	100.0%	33.1	0.0	C
	Through	130	128	98.5%	31.8	0.0	C
	Right Turn	150	152	101.3%	8.0	0.0	A
	Subtotal	**440**	**440**	**100.0%**	**24.1**	**0.0**	**C**
EB	Left Turn	120	123	102.5%	40.7	0.0	D
	Through	240	239	99.6%	21.5	0.0	C
	Right Turn	20	22	110.0%	13.1	0.0	B
	Subtotal	**380**	**384**	**101.1%**	**27.2**	**0.0**	**C**
WB	Left Turn	20	20	100.0%	59.5	0.0	E
	Through	350	357	102.0%	42.7	0.0	D
	Right Turn	180	179	99.4%	20.1	0.0	C
	Subtotal	**550**	**556**	**101.1%**	**36.0**	**0.0**	**D**
Total		**1,650**	**1,669**	**101.2%**	**30.2**	**0.0**	**C**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	20	20	100.0%	5.2	0.0	A
	Through	270	265	98.1%	2.6	0.0	A
	Right Turn	20	21	105.0%	1.2	0.0	A
	Subtotal	**310**	**306**	**98.7%**	**2.7**	**0.0**	**A**
SB	Left Turn	20	19	95.0%	2.6	0.0	A
	Through	370	373	100.8%	0.6	0.0	A
	Right Turn	10	11	110.0%	0.1	0.0	A
	Subtotal	**400**	**403**	**100.8%**	**0.7**	**0.0**	**A**
EB	Left Turn	30	29	96.7%	12.9	0.0	B
	Through	50	50	100.0%	12.3	0.0	B
	Right Turn	140	147	105.0%	5.3	0.0	A
	Subtotal	**220**	**226**	**102.7%**	**7.8**	**0.0**	**A**
WB	Left Turn	40	40	100.0%	10.7	0.0	B
	Through	50	50	100.0%	13.6	0.0	B
	Right Turn	30	31	103.3%	2.1	0.0	A
	Subtotal	**120**	**121**	**100.8%**	**9.7**	**0.0**	**A**
Total		**1,050**	**1,056**	**100.6%**	**3.8**	**0.0**	**A**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	80	79	98.8%	14.7	0.0	B
	Through						
	Right Turn	180	180	100.0%	4.4	0.0	A
	Subtotal	**260**	**259**	**99.6%**	**7.5**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	250	254	101.6%	11.0	0.0	B
	Right Turn	140	137	97.9%	5.2	0.0	A
	Subtotal	**390**	**391**	**100.3%**	**9.0**	**0.0**	**A**
WB	Left Turn	210	209	99.5%	15.3	0.0	B
	Through	490	489	99.8%	3.8	0.0	A
	Right Turn						
	Subtotal	**700**	**698**	**99.7%**	**7.2**	**0.0**	**A**
Total		**1,350**	**1,348**	**99.9%**	**7.8**	**0.0**	**A**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	130	129	99.2%	26.4	0.0	C
	Through	190	192	101.1%	17.3	0.0	B
	Right Turn	80	86	107.5%	2.3	0.0	A
	Subtotal	**400**	**407**	**101.8%**	**17.0**	**0.0**	**B**
SB	Left Turn	20	20	100.0%	32.5	0.0	C
	Through	180	184	102.2%	29.8	0.0	C
	Right Turn	310	311	100.3%	9.3	0.0	A
	Subtotal	**510**	**515**	**101.0%**	**17.5**	**0.0**	**B**
EB	Left Turn	200	195	97.5%	23.5	0.0	C
	Through	730	722	98.9%	16.4	0.0	B
	Right Turn	150	152	101.3%	3.0	0.0	A
	Subtotal	**1,080**	**1,069**	**99.0%**	**15.8**	**0.0**	**B**
WB	Left Turn	100	100	100.0%	25.9	0.0	C
	Through	540	531	98.3%	19.2	0.0	B
	Right Turn	30	30	100.0%	3.7	0.0	A
	Subtotal	**670**	**661**	**98.7%**	**19.5**	**0.0**	**B**
Total		**2,660**	**2,652**	**99.7%**	**17.2**	**0.0**	**B**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	60	58	96.7%	6.3	0.0	A
	Through						
	Right Turn	120	124	103.3%	3.6	0.0	A
	Subtotal	**180**	**182**	**101.1%**	**4.5**	**0.0**	**A**
EB	Left Turn	70	69	98.6%	2.0	0.0	A
	Through	130	130	100.0%	1.0	0.0	A
	Right Turn						
	Subtotal	**200**	**199**	**99.5%**	**1.3**	**0.0**	**A**
WB	Left Turn						
	Through	170	177	104.1%	3.0	0.0	A
	Right Turn	40	41	102.5%	1.7	0.0	A
	Subtotal	**210**	**218**	**103.8%**	**2.8**	**0.0**	**A**
Total		**590**	**599**	**101.5%**	**2.8**	**0.0**	**A**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	80	81	101.3%	25.2	0.0	D
	Through	50	51	102.0%	14.0	0.0	B
	Right Turn	10	11	110.0%	4.6	0.0	A
	Subtotal	**140**	**143**	**102.1%**	**19.6**	**0.0**	**C**
SB	Left Turn	10	9	90.0%	31.5	0.0	D
	Through	80	83	103.8%	21.5	0.0	C
	Right Turn	30	34	113.3%	5.7	0.0	A
	Subtotal	**120**	**126**	**105.0%**	**18.0**	**0.0**	**C**
EB	Left Turn	110	103	93.6%	25.4	0.0	D
	Through	660	671	101.7%	11.3	0.0	B
	Right Turn	60	65	108.3%	3.4	0.0	A
	Subtotal	**830**	**839**	**101.1%**	**12.4**	**0.0**	**B**
WB	Left Turn	10	10	100.0%	34.2	0.0	D
	Through	560	562	100.4%	18.7	0.0	C
	Right Turn	10	12	120.0%	3.8	0.0	A
	Subtotal	**580**	**584**	**100.7%**	**18.7**	**0.0**	**C**
Total		**1,670**	**1,692**	**101.3%**	**15.6**	**0.0**	**C**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	90	93	103.3%	14.9	0.0	B
	Through	60	62	103.3%	11.9	0.0	B
	Right Turn	20	23	115.0%	4.4	0.0	A
	Subtotal	**170**	**178**	**104.7%**	**12.5**	**0.0**	**B**
SB	Left Turn	110	115	104.5%	16.9	0.0	B
	Through	60	58	96.7%	11.7	0.0	B
	Right Turn	140	146	104.3%	4.7	0.0	A
	Subtotal	**310**	**319**	**102.9%**	**10.4**	**0.0**	**B**
EB	Left Turn	70	67	95.7%	20.5	0.0	C
	Through	320	315	98.4%	9.8	0.0	A
	Right Turn	50	51	102.0%	4.5	0.0	A
	Subtotal	**440**	**433**	**98.4%**	**10.8**	**0.0**	**B**
WB	Left Turn	40	37	92.5%	21.6	0.0	C
	Through	190	199	104.7%	11.3	0.0	B
	Right Turn	70	73	104.3%	4.8	0.0	A
	Subtotal	**300**	**309**	**103.0%**	**11.0**	**0.0**	**B**
Total		**1,220**	**1,239**	**101.6%**	**11.0**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	100	100.0%	35.7	0.0	D
	Through	320	324	101.3%	36.2	0.0	D
	Right Turn	130	134	103.1%	8.2	0.0	A
	Subtotal	**550**	**558**	**101.5%**	**29.4**	**0.0**	**C**
SB	Left Turn	300	296	98.7%	49.6	0.0	D
	Through	420	422	100.5%	41.8	0.0	D
	Right Turn	20	22	110.0%	38.8	0.0	D
	Subtotal	**740**	**740**	**100.0%**	**44.8**	**0.0**	**D**
EB	Left Turn	70	69	98.6%	61.7	0.0	E
	Through	300	299	99.7%	37.2	0.0	D
	Right Turn	70	71	101.4%	26.3	0.0	C
	Subtotal	**440**	**439**	**99.8%**	**39.3**	**0.0**	**D**
WB	Left Turn	160	156	97.5%	47.0	0.0	D
	Through	220	221	100.5%	30.7	0.0	C
	Right Turn	290	286	98.6%	9.0	0.0	A
	Subtotal	**670**	**663**	**99.0%**	**25.2**	**0.0**	**C**
Total		**2,400**	**2,400**	**100.0%**	**34.8**	**0.0**	**C**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	260	260	100.0%	29.9	0.0	C
	Through	110	115	104.5%	20.5	0.0	C
	Right Turn	80	75	93.8%	6.6	0.0	A
	Subtotal	**450**	**450**	**100.0%**	**23.6**	**0.0**	**C**
SB	Left Turn	30	31	103.3%	33.3	0.0	C
	Through	150	155	103.3%	29.2	0.0	C
	Right Turn	80	88	110.0%	9.0	0.0	A
	Subtotal	**260**	**274**	**105.4%**	**23.2**	**0.0**	**C**
EB	Left Turn	50	47	94.0%	34.8	0.0	C
	Through	360	369	102.5%	20.4	0.0	C
	Right Turn	150	155	103.3%	12.4	0.0	B
	Subtotal	**560**	**571**	**102.0%**	**19.4**	**0.0**	**B**
WB	Left Turn	150	152	101.3%	31.3	0.0	C
	Through	380	384	101.1%	14.7	0.0	B
	Right Turn	40	42	105.0%	8.2	0.0	A
	Subtotal	**570**	**578**	**101.4%**	**18.6**	**0.0**	**B**
Total		**1,840**	**1,873**	**101.8%**	**20.7**	**0.0**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	51	102.0%	36.3	0.0	D
	Through	830	840	101.2%	23.1	0.0	C
	Right Turn	40	43	107.5%	7.1	0.0	A
	Subtotal	**920**	**934**	**101.5%**	**23.1**	**0.0**	**C**
SB	Left Turn	100	95	95.0%	36.3	0.0	D
	Through	740	743	100.4%	20.2	0.0	C
	Right Turn	80	80	100.0%	14.6	0.0	B
	Subtotal	**920**	**918**	**99.8%**	**21.4**	**0.0**	**C**
EB	Left Turn	70	69	98.6%	33.0	0.0	C
	Through	30	28	93.3%	34.4	0.0	C
	Right Turn	50	54	108.0%	9.3	0.0	A
	Subtotal	**150**	**151**	**100.7%**	**24.8**	**0.0**	**C**
WB	Left Turn	60	60	100.0%	31.4	0.0	C
	Through	150	147	98.0%	31.7	0.0	C
	Right Turn	140	137	97.9%	10.9	0.0	B
	Subtotal	**350**	**344**	**98.3%**	**23.4**	**0.0**	**C**
Total		**2,340**	**2,347**	**100.3%**	**22.6**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	20	20	100.0%	18.8	0.0	B
	Through	410	406	99.0%	5.5	0.0	A
	Right Turn	80	80	100.0%	2.1	0.0	A
	Subtotal	**510**	**506**	**99.2%**	**5.5**	**0.0**	**A**
SB	Left Turn	10	11	110.0%	17.5	0.0	B
	Through	520	531	102.1%	6.5	0.0	A
	Right Turn	30	30	100.0%	3.5	0.0	A
	Subtotal	**560**	**572**	**102.1%**	**6.6**	**0.0**	**A**
EB	Left Turn	20	20	100.0%	19.5	0.0	B
	Through	10	11	110.0%	21.4	0.0	C
	Right Turn	20	24	120.0%	3.6	0.0	A
	Subtotal	**50**	**55**	**110.0%**	**12.9**	**0.0**	**B**
WB	Left Turn	30	32	106.7%	18.0	0.0	B
	Through	10	10	100.0%	16.9	0.0	B
	Right Turn	10	10	100.0%	3.3	0.0	A
	Subtotal	**50**	**52**	**104.0%**	**15.0**	**0.0**	**B**
Total		**1,170**	**1,185**	**101.3%**	**6.8**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	30	150.0%	21.3	0.0	C
	Through	113	428	378.8%	5.2	0.0	A
	Right Turn	110	362	329.1%	4.3	0.0	A
	Subtotal	**243**	**820**	**337.4%**	**5.4**	**0.0**	**A**
SB	Left Turn	23	28	121.7%	23.6	0.0	C
	Through	123	601	488.6%	8.0	0.0	A
	Right Turn	150	351	234.0%	6.4	0.0	A
	Subtotal	**296**	**980**	**331.1%**	**7.9**	**0.0**	**A**
EB	Left Turn	23	55	239.1%	17.7	0.0	B
	Through						
	Right Turn	15	29	193.3%	18.1	0.0	B
	Subtotal	**38**	**84**	**221.1%**	**17.8**	**0.0**	**B**
WB	Left Turn	45	124	275.6%	16.9	0.0	B
	Through						
	Right Turn	13	22	169.2%	19.0	0.0	B
	Subtotal	**58**	**146**	**251.7%**	**17.2**	**0.0**	**B**
Total		**635**	**2,030**	**319.7%**	**8.0**	**0.0**	**A**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	65	153	235.4%	16.9	0.0	B
	Through	110	259	235.5%	5.9	0.0	A
	Right Turn	90	183	203.3%	3.5	0.0	A
	Subtotal	**265**	**595**	**224.5%**	**8.0**	**0.0**	**A**
SB	Left Turn	30	38	126.7%	20.7	0.0	C
	Through	125	470	376.0%	10.6	0.0	B
	Right Turn	15	52	346.7%	3.9	0.0	A
	Subtotal	**170**	**560**	**329.4%**	**10.7**	**0.0**	**B**
EB	Left Turn	5	9	180.0%	15.1	0.0	B
	Through						
	Right Turn	35	0	0.0%	0.0	0.0	A
	Subtotal	**40**	**9**	**22.5%**	**15.1**	**0.0**	**B**
WB	Left Turn	45	125	277.8%	16.8	0.0	B
	Through						
	Right Turn	18	0	0.0%	0.0	0.0	A
	Subtotal	**63**	**125**	**198.4%**	**16.8**	**0.0**	**B**
Total		**538**	**1,289**	**239.6%**	**10.1**	**0.0**	**B**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	Does Not Exist in this Scenario					
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total							

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	5	9	180.0%	36.5	0.0	D
	Through	108	310	287.0%	20.2	0.0	C
	Right Turn	55	189	343.6%	6.1	0.0	A
	Subtotal	**168**	**508**	**302.4%**	**15.2**	**0.0**	**B**
SB	Left Turn	5	7	140.0%	40.7	0.0	D
	Through	138	352	255.1%	26.7	0.0	C
	Right Turn	183	496	271.0%	10.2	0.0	B
	Subtotal	**326**	**855**	**262.3%**	**17.2**	**0.0**	**B**
EB	Left Turn	178	618	347.2%	24.7	0.0	C
	Through	58	44	75.9%	15.2	0.0	B
	Right Turn	13	29	223.1%	3.3	0.0	A
	Subtotal	**249**	**691**	**277.5%**	**23.2**	**0.0**	**C**
WB	Left Turn	53	168	317.0%	29.6	0.0	C
	Through	73	91	124.7%	21.8	0.0	C
	Right Turn						
	Subtotal	**126**	**259**	**205.6%**	**26.9**	**0.0**	**C**
Total		**869**	**2,313**	**266.2%**	**19.7**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	106	187	233	0	0
	Through	2,428	34	79	104	0	0
	Right Turn	2,428	34	79	104	0	0
SB	Left Turn	300	17	50	67	0	0
	Through	2,373	70	143	175	0	0
	Right Turn	2,373	70	143	175	0	0
EB	Left Turn	530	34	80	108	0	0
	Through	3,295	112	194	219	0	0
	Right Turn	410	42	78	99	0	0
WB	Left Turn	580	115	202	255	0	0
	Through	2,518	125	219	253	0	0
	Right Turn	530	20	54	72	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	23	53	70	0	0
	Through	923	25	54	70	0	0
	Right Turn						
SB	Left Turn	550	19	54	79	0	0
	Through	3,946	34	67	90	0	0
	Right Turn	3,946	21	52	67	0	0
EB	Left Turn	715	26	69	96	0	0
	Through	2,518	76	146	174	0	0
	Right Turn	355	68	132	148	0	0
WB	Left Turn	920	97	151	173	0	0
	Through	2,590	96	176	222	0	0
	Right Turn	750	7	29	43	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	22	58	76	0	0
	Through	464	102	182	204	1	0
	Right Turn	464	94	158	185	0	0
SB	Left Turn	290	67	133	169	0	0
	Through	5,159	142	242	290	0	0
	Right Turn	5,159	189	304	351	0	0
EB	Left Turn	250	98	180	216	0	0
	Through	5,459	77	154	185	0	0
	Right Turn	5,459	77	154	185	0	0
WB	Left Turn	90	12	52	**112**	0	0
	Through	491	251	417	467	37	0
	Right Turn	160	107	**252**	**220**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	72	135	161	0	0
	Right Turn						
SB	Left Turn						
	Through	464	93	199	243	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	93	151	168	0	0
	Through						
	Right Turn	672	93	151	168	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	21	51	63	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	72	137	164	0	0
	Right Turn	491	72	137	164	0	0
WB	Left Turn	530	80	134	172	0	0
	Through	3,699	2	31	41	0	0
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	48	103	125	0	0
	Through	737	51	100	135	0	0
	Right Turn	737	20	52	71	0	0
SB	Left Turn	550	22	57	73	0	0
	Through	1,039	66	120	133	0	0
	Right Turn	650	57	111	141	0	0
EB	Left Turn	300	25	60	73	0	0
	Through						
	Right Turn	1,111	65	126	158	0	0
WB	Left Turn	1,063	52	101	124	0	0
	Through						
	Right Turn	1,063	103	171	192	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	89	153	177	0	0
	Through	3,853	137	206	235	0	0
	Right Turn	200	39	80	107	0	0
SB	Left Turn	500	69	124	143	0	0
	Through	1,480	161	234	251	0	0
	Right Turn	1,480	92	174	198	0	0
EB	Left Turn	350	96	153	191	0	0
	Through	4,930	109	162	180	0	0
	Right Turn	350	50	87	101	0	0
WB	Left Turn	300	179	132	157	0	0
	Through	5,938	176	250	272	0	0
	Right Turn	350	97	190	222	0	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	127	216	256	0	0
	Through	902	17	47	69	0	0
	Right Turn	600	17	48	71	0	0
SB	Left Turn	650	15	45	67	0	0
	Through	952	58	104	126	0	0
	Right Turn	650	76	143	192	0	0
EB	Left Turn	500	14	41	58	0	0
	Through						
	Right Turn	860	33	77	101	0	0
WB	Left Turn	880	66	111	128	0	0
	Through						
	Right Turn	880	17	50	68	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	153	225	250	0	0
	Through	1,262	77	139	163	0	0
	Right Turn	1,262	56	114	154	0	0
SB	Left Turn	300	25	62	82	0	0
	Through	1,262	147	214	242	0	0
	Right Turn	300	65	111	132	0	0
EB	Left Turn	300	67	123	143	0	0
	Through	1,409	95	153	180	0	0
	Right Turn	300	40	79	97	0	0
WB	Left Turn	300	55	109	130	0	0
	Through	3,308	154	225	258	0	0
	Right Turn	3,308	96	186	205	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	91	166	**201**	1	0
	Through	2,570	36	82	102	0	0
	Right Turn	2,570	68	124	142	0	0
SB	Left Turn	150	45	99	138	0	0
	Through	2,170	72	141	186	12	0
	Right Turn	75	46	**97**	**131**	1	0
EB	Left Turn	525	30	79	101	0	0
	Through	2,722	61	113	154	0	0
	Right Turn	2,722	57	117	160	0	0
WB	Left Turn	625	81	129	148	0	0
	Through	3,227	81	153	184	0	0
	Right Turn	3,227	96	174	197	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	27	66	80	0	0
	Through	1,181	61	112	140	0	0
	Right Turn	1,181	60	109	133	0	0
SB	Left Turn	315	33	82	114	0	0
	Through	3,988	91	168	216	0	0
	Right Turn	3,988	139	229	265	0	0
EB	Left Turn	410	47	100	127	0	0
	Through	1,731	22	62	82	0	0
	Right Turn	1,731	35	72	90	0	0
WB	Left Turn	1,878	139	222	258	0	0
	Through	1,878	7	27	42	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	185	263	286	0	0
	Through	2,052	63	111	129	0	0
	Right Turn	2,052	40	91	111	0	0
SB	Left Turn	300	9	34	48	0	0
	Through	466	207	303	338	1	0
	Right Turn	300	69	125	156	0	0
EB	Left Turn	1,374	88	147	176	0	0
	Through	1,374	34	72	90	0	0
	Right Turn						
WB	Left Turn	300	9	34	49	0	0
	Through	1,274	88	141	159	0	0
	Right Turn	300	7	29	50	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	48	131	203	0	0
	Through	1,227	169	313	377	3	0
	Right Turn	1,227	169	313	377	3	0
SB	Left Turn	175	110	**204**	**225**	2	0
	Through	1,669	104	238	309	9	0
	Right Turn	100	72	**140**	**156**	1	0
EB	Left Turn	3,220	85	165	198	0	0
	Through	3,220	109	211	256	0	0
	Right Turn	3,220	109	211	256	0	0
WB	Left Turn	75	27	**85**	**134**	1	0
	Through	3,356	261	483	556	48	0
	Right Turn	150	124	**251**	**210**	1	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	6	28	45	0	0
	Through	1,058	1	8	11	0	0
	Right Turn	1,058	0	0	7	0	0
SB	Left Turn	300	5	25	42	0	0
	Through	414	0	6	13	0	0
	Right Turn	414	0	3	5	0	0
EB	Left Turn	300	23	57	77	0	0
	Through	1,163	32	71	87	0	0
	Right Turn	300	53	92	120	0	0
WB	Left Turn	300	25	57	76	0	0
	Through	1,019	27	58	72	0	0
	Right Turn	300	16	42	58	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	38	73	87	0	0
	Through						
	Right Turn	150	39	63	80	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	60	99	111	0	0
	Right Turn	300	61	108	136	0	0
WB	Left Turn	400	86	149	190	0	0
	Through	873	35	78	100	0	0
	Right Turn						

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,090	46	90	107	0	0
	Through	1,090	46	97	114	0	0
	Right Turn	1,000	21	51	74	0	0
SB	Left Turn	520	13	40	62	0	0
	Through	1,218	58	110	132	0	0
	Right Turn	720	71	128	156	0	0
EB	Left Turn	800	69	116	138	0	0
	Through	1,066	117	183	221	0	0
	Right Turn	1,000	34	70	86	0	0
WB	Left Turn	1,607	36	74	93	0	0
	Through	1,607	75	138	170	0	0
	Right Turn	850	8	29	48	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn	826	33	65	75	0	0
	Through						
	Right Turn	300	44	73	83	0	0
EB	Left Turn	300	14	45	63	0	0
	Through						
	Right Turn						
WB	Left Turn						
	Through	5,348	1	10	11	0	0
	Right Turn	5,348	1	10	11	0	0

Intersection 18 **Bentley Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	49	99	128	0	0
	Through	1,462	23	59	79	0	0
	Right Turn	300	5	20	34	0	0
SB	Left Turn	150	8	30	47	0	0
	Through	1,179	44	98	124	0	0
	Right Turn	200	14	39	56	0	0
EB	Left Turn	680	61	114	143	0	0
	Through	2,753	77	145	185	0	0
	Right Turn	580	14	39	57	0	0
WB	Left Turn	770	9	34	58	0	0
	Through	2,387	98	162	205	0	0
	Right Turn	720	4	20	32	0	0

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	45	83	102	0	0
	Through	1,264	35	70	94	0	0
	Right Turn	1,264	35	70	94	0	0
SB	Left Turn	100	48	89	**116**	1	0
	Through	1,626	26	65	102	0	0
	Right Turn	75	42	**76**	**96**	0	0
EB	Left Turn	250	35	74	97	0	0
	Through	1,565	46	99	127	0	0
	Right Turn	1,565	56	111	137	0	0
WB	Left Turn	250	28	63	74	0	0
	Through	2,560	61	115	138	0	0
	Right Turn	300	37	79	102	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	152	247	286	0	0
	Through	1,934	155	239	254	0	0
	Right Turn	300	60	111	153	0	0
SB	Left Turn	5,862	285	443	495	0	0
	Through	5,862	285	443	495	0	0
	Right Turn	5,862	243	397	450	0	0
EB	Left Turn	50	**75**	**128**	**110**	31	0
	Through	2,671	153	297	373	44	0
	Right Turn	200	144	**237**	**255**	2	0
WB	Left Turn	300	131	230	267	0	0
	Through	2,545	132	241	284	0	0
	Right Turn	2,545	81	151	202	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	93	140	159	0	0
	Through	1,873	57	113	145	13	0
	Right Turn	50	37	**82**	**98**	1	0
SB	Left Turn	100	26	70	**103**	0	0
	Through	2,914	89	156	189	8	0
	Right Turn	100	46	**102**	**153**	0	0
EB	Left Turn	250	31	68	83	0	0
	Through	1,994	102	177	205	0	0
	Right Turn	1,994	108	192	232	0	0
WB	Left Turn	200	83	146	174	0	0
	Through	2,690	69	128	150	0	0
	Right Turn	2,690	78	148	188	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	45	96	120	0	0
	Through	1,383	167	270	309	0	0
	Right Turn	300	19	53	67	0	0
SB	Left Turn	400	70	136	159	0	0
	Through	2,186	130	225	264	0	0
	Right Turn	2,186	153	248	281	0	0
EB	Left Turn	225	56	112	141	0	0
	Through	5,602	19	50	61	0	0
	Right Turn	225	40	84	110	0	0
WB	Left Turn	225	42	92	121	0	0
	Through	2,173	54	100	120	0	0
	Right Turn	225	41	88	117	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	17	50	67	0	0
	Through	1,326	48	102	127	0	0
	Right Turn	1,326	26	69	97	0	0
SB	Left Turn	350	12	40	57	0	0
	Through	1,404	70	128	152	0	0
	Right Turn	350	9	35	49	0	0
EB	Left Turn	225	15	43	61	0	0
	Through	1,997	8	30	45	0	0
	Right Turn	225	12	33	48	0	0
WB	Left Turn	175	23	57	73	0	0
	Through	2,609	14	43	58	0	0
	Right Turn	2,609	14	43	58	0	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	24	62	82	0	0
	Through	1,357	41	89	110	0	0
	Right Turn	700	53	96	127	0	0
SB	Left Turn	600	16	46	72	0	0
	Through	1,181	58	117	154	0	0
	Right Turn	600	57	105	135	0	0
EB	Left Turn	500	29	64	75	0	0
	Through						
	Right Turn	500	23	59	76	0	0
WB	Left Turn	500	39	74	88	0	0
	Through						
	Right Turn	350	18	52	75	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 25 **Roselle & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	62	122	154	0	0
	Through	671	32	83	108	0	0
	Right Turn	400	19	55	84	0	0
SB	Left Turn	550	20	57	87	0	0
	Through	1,058	51	102	125	0	0
	Right Turn	550	5	27	51	0	0
EB	Left Turn	500	3	16	27	0	0
	Through						
	Right Turn	1,221	47	91	113	0	0
WB	Left Turn	1,142	41	73	85	0	0
	Through						
	Right Turn	1,142	29	66	80	0	0

Intersection 27 **NCC & Albers Rd** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	6	22	28	0	0
	Through	2,741	125	232	269	2	0
	Right Turn	300	39	82	101	0	0
SB	Left Turn	200	3	16	28	0	0
	Through	1,383	127	250	292	2	0
	Right Turn						
EB	Left Turn	920	133	236	283	0	0
	Through	1,126	11	37	53	0	0
	Right Turn	580	14	45	64	0	0
WB	Left Turn	720	54	102	126	0	0
	Through	2,965	27	65	80	0	0
	Right Turn	580	6	28	50	0	0

Intersection 28 **NCC & SMITH** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,306	17	44	59	0	0
	Through	1,306	17	44	59	0	0
	Right Turn	1,306	17	44	59	0	0
SB	Left Turn	1,066	14	42	57	0	0
	Through	1,066	14	42	57	0	0
	Right Turn	630	23	53	68	0	0
EB	Left Turn	870	35	74	97	0	0
	Through	5,343	12	43	65	0	0
	Right Turn	670	1	11	20	0	0
WB	Left Turn	650	8	29	43	0	0
	Through	4,038	23	67	93	0	0
	Right Turn	650	3	20	40	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	180	181	100.6%	29.6	0.0	C
	Through	60	62	103.3%	20.9	0.0	C
	Right Turn	20	23	115.0%	8.2	0.0	A
	Subtotal	**260**	**266**	**102.3%**	**25.7**	**0.0**	**C**
SB	Left Turn	20	18	90.0%	32.3	0.0	C
	Through	80	78	97.5%	31.6	0.0	C
	Right Turn	50	53	106.0%	14.5	0.0	B
	Subtotal	**150**	**149**	**99.3%**	**25.6**	**0.0**	**C**
EB	Left Turn	40	40	100.0%	33.9	0.0	C
	Through	640	640	100.0%	22.8	0.0	C
	Right Turn	110	112	101.8%	7.3	0.0	A
	Subtotal	**790**	**792**	**100.3%**	**21.2**	**0.0**	**C**
WB	Left Turn	170	173	101.8%	37.0	0.0	D
	Through	950	953	100.3%	20.8	0.0	C
	Right Turn	50	56	112.0%	9.4	0.0	A
	Subtotal	**1,170**	**1,182**	**101.0%**	**22.6**	**0.0**	**C**
Total		**2,370**	**2,389**	**100.8%**	**22.7**	**0.0**	**C**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	90	89	98.9%	22.1	0.0	C
	Through	70	73	104.3%	17.4	0.0	B
	Right Turn	120	122	101.7%	2.3	0.0	A
	Subtotal	**280**	**284**	**101.4%**	**12.4**	**0.0**	**B**
SB	Left Turn	30	27	90.0%	26.1	0.0	C
	Through	100	101	101.0%	22.5	0.0	C
	Right Turn	50	54	108.0%	7.5	0.0	A
	Subtotal	**180**	**182**	**101.1%**	**18.6**	**0.0**	**B**
EB	Left Turn	30	29	96.7%	36.3	0.0	D
	Through	430	428	99.5%	22.1	0.0	C
	Right Turn	220	227	103.2%	15.6	0.0	B
	Subtotal	**680**	**684**	**100.6%**	**20.5**	**0.0**	**C**
WB	Left Turn	360	353	98.1%	28.8	0.0	C
	Through	1,030	2,042	198.3%	8.0	0.0	A
	Right Turn	20	22	110.0%	3.3	0.0	A
	Subtotal	**1,410**	**2,417**	**171.4%**	**11.0**	**0.0**	**B**
Total		**2,550**	**3,567**	**139.9%**	**13.3**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	20	100.0%	48.5	0.0	D
	Through	300	304	101.3%	32.1	0.0	C
	Right Turn	10	11	110.0%	18.6	0.0	B
	Subtotal	**330**	**335**	**101.5%**	**32.6**	**0.0**	**C**
SB	Left Turn	70	72	102.9%	51.6	0.0	D
	Through	440	433	98.4%	31.2	0.0	C
	Right Turn	220	220	100.0%	25.1	0.0	C
	Subtotal	**730**	**725**	**99.3%**	**31.4**	**0.0**	**C**
EB	Left Turn	130	125	96.2%	46.5	0.0	D
	Through	150	148	98.7%	20.4	0.0	C
	Right Turn	40	42	105.0%	11.3	0.0	B
	Subtotal	**320**	**315**	**98.4%**	**29.5**	**0.0**	**C**
WB	Left Turn	10	9	90.0%	57.9	0.0	E
	Through	420	415	98.8%	32.1	0.0	C
	Right Turn	130	129	99.2%	10.5	0.0	B
	Subtotal	**560**	**553**	**98.8%**	**27.5**	**0.0**	**C**
Total		**1,940**	**1,928**	**99.4%**	**30.2**	**0.0**	**C**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	320	325	101.6%	7.8	0.0	A
	Right Turn	90	94	104.4%	0.2	0.0	A
	Subtotal	**410**	**419**	**102.2%**	**6.1**	**0.0**	**A**
SB	Left Turn						
	Through	490	483	98.6%	12.3	0.0	B
	Right Turn						
	Subtotal	**490**	**483**	**98.6%**	**12.3**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	230	226	98.3%	16.0	0.0	B
	Through	10	11	110.0%	5.6	0.0	A
	Right Turn						
	Subtotal	**240**	**237**	**98.8%**	**15.5**	**0.0**	**B**
Total		**1,140**	**1,139**	**99.9%**	**10.7**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	90	93	103.3%	4.0	0.0	A
	Subtotal	**90**	**93**	**103.3%**	**4.0**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	220	225	102.3%	10.2	0.0	B
	Right Turn	10	10	100.0%	4.0	0.0	A
	Subtotal	**230**	**235**	**102.2%**	**9.9**	**0.0**	**A**
WB	Left Turn	230	226	98.3%	15.5	0.0	B
	Through	560	549	98.0%	4.9	0.0	A
	Right Turn						
	Subtotal	**790**	**775**	**98.1%**	**8.0**	**0.0**	**A**
Total		**1,110**	**1,103**	**99.4%**	**8.1**	**0.0**	**A**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	90	94	104.4%	18.9	0.0	B
	Through	300	288	96.0%	12.4	0.0	B
	Right Turn	90	93	103.3%	4.6	0.0	A
	Subtotal	**480**	**475**	**99.0%**	**12.2**	**0.0**	**B**
SB	Left Turn	40	38	95.0%	17.2	0.0	B
	Through	500	491	98.2%	13.4	0.0	B
	Right Turn	210	213	101.4%	7.5	0.0	A
	Subtotal	**750**	**742**	**98.9%**	**11.9**	**0.0**	**B**
EB	Left Turn	50	49	98.0%	16.4	0.0	B
	Through						
	Right Turn	110	112	101.8%	18.5	0.0	B
	Subtotal	**160**	**161**	**100.6%**	**17.9**	**0.0**	**B**
WB	Left Turn	230	226	98.3%	18.8	0.0	B
	Through						
	Right Turn	210	212	101.0%	18.3	0.0	B
	Subtotal	**440**	**438**	**99.5%**	**18.6**	**0.0**	**B**
Total		**1,830**	**1,816**	**99.2%**	**14.1**	**0.0**	**B**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	190	197	103.7%	47.9	0.0	D
	Through	670	666	99.4%	28.4	0.0	C
	Right Turn	120	118	98.3%	7.2	0.0	A
	Subtotal	**980**	**981**	**100.1%**	**29.8**	**0.0**	**C**
SB	Left Turn	100	99	99.0%	41.0	0.0	D
	Through	560	570	101.8%	26.9	0.0	C
	Right Turn	130	133	102.3%	12.5	0.0	B
	Subtotal	**790**	**802**	**101.5%**	**26.3**	**0.0**	**C**
EB	Left Turn	260	257	98.8%	45.2	0.0	D
	Through	600	598	99.7%	28.9	0.0	C
	Right Turn	180	185	102.8%	6.7	0.0	A
	Subtotal	**1,040**	**1,040**	**100.0%**	**29.0**	**0.0**	**C**
WB	Left Turn	210	213	101.4%	45.8	0.0	D
	Through	960	965	100.5%	34.0	0.0	C
	Right Turn	280	283	101.1%	11.1	0.0	B
	Subtotal	**1,450**	**1,461**	**100.8%**	**31.3**	**0.0**	**C**
Total		**4,260**	**4,284**	**100.6%**	**29.4**	**0.0**	**C**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	320	318	99.4%	19.5	0.0	B
	Through	190	198	104.2%	4.9	0.0	A
	Right Turn	190	186	97.9%	2.4	0.0	A
	Subtotal	**700**	**702**	**100.3%**	**10.9**	**0.0**	**B**
SB	Left Turn	20	18	90.0%	26.7	0.0	C
	Through	270	271	100.4%	15.7	0.0	B
	Right Turn	270	270	100.0%	10.5	0.0	B
	Subtotal	**560**	**559**	**99.8%**	**13.5**	**0.0**	**B**
EB	Left Turn	40	38	95.0%	25.3	0.0	C
	Through						
	Right Turn	70	68	97.1%	12.1	0.0	B
	Subtotal	**110**	**106**	**96.4%**	**16.8**	**0.0**	**B**
WB	Left Turn	270	264	97.8%	20.0	0.0	B
	Through						
	Right Turn	20	20	100.0%	24.5	0.0	C
	Subtotal	**290**	**284**	**97.9%**	**20.3**	**0.0**	**C**
Total		**1,660**	**1,651**	**99.5%**	**13.8**	**0.0**	**B**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	380	380	100.0%	30.6	0.0	C
	Through	370	371	100.3%	14.7	0.0	B
	Right Turn	60	60	100.0%	6.3	0.0	A
	Subtotal	**810**	**811**	**100.1%**	**21.5**	**0.0**	**C**
SB	Left Turn	30	27	90.0%	40.5	0.0	D
	Through	400	400	100.0%	31.2	0.0	C
	Right Turn	210	218	103.8%	9.1	0.0	A
	Subtotal	**640**	**645**	**100.8%**	**24.1**	**0.0**	**C**
EB	Left Turn	130	129	99.2%	36.5	0.0	D
	Through	370	362	97.8%	21.0	0.0	C
	Right Turn	220	218	99.1%	6.8	0.0	A
	Subtotal	**720**	**709**	**98.5%**	**19.5**	**0.0**	**B**
WB	Left Turn	80	79	98.8%	37.1	0.0	D
	Through	850	848	99.8%	27.7	0.0	C
	Right Turn	60	63	105.0%	10.7	0.0	B
	Subtotal	**990**	**990**	**100.0%**	**27.4**	**0.0**	**C**
Total		**3,160**	**3,155**	**99.8%**	**23.4**	**0.0**	**C**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	120	116	96.7%	42.0	0.0	D
	Through	50	50	100.0%	30.2	0.0	C
	Right Turn	100	93	93.0%	31.4	0.0	C
	Subtotal	**270**	**259**	**95.9%**	**35.9**	**0.0**	**D**
SB	Left Turn	50	46	92.0%	42.0	0.0	D
	Through	90	90	100.0%	36.5	0.0	D
	Right Turn	80	84	105.0%	7.8	0.0	A
	Subtotal	**220**	**220**	**100.0%**	**26.7**	**0.0**	**C**
EB	Left Turn	30	27	90.0%	49.6	0.0	D
	Through	300	294	98.0%	13.5	0.0	B
	Right Turn	50	50	100.0%	6.1	0.0	A
	Subtotal	**380**	**371**	**97.6%**	**15.1**	**0.0**	**B**
WB	Left Turn	200	202	101.0%	40.0	0.0	D
	Through	590	592	100.3%	12.3	0.0	B
	Right Turn	40	43	107.5%	9.8	0.0	A
	Subtotal	**830**	**837**	**100.8%**	**18.9**	**0.0**	**B**
Total		**1,700**	**1,687**	**99.2%**	**21.7**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	31	103.3%	34.5	0.0	C
	Through	240	243	101.3%	16.9	0.0	B
	Right Turn	230	232	100.9%	6.3	0.0	A
	Subtotal	**500**	**506**	**101.2%**	**13.1**	**0.0**	**B**
SB	Left Turn	40	41	102.5%	34.0	0.0	C
	Through	520	529	101.7%	19.6	0.0	B
	Right Turn	40	37	92.5%	14.0	0.0	B
	Subtotal	**600**	**607**	**101.2%**	**20.2**	**0.0**	**C**
EB	Left Turn	80	78	97.5%	22.4	0.0	C
	Through	20	22	110.0%	37.3	0.0	D
	Right Turn	70	71	101.4%	6.8	0.0	A
	Subtotal	**170**	**171**	**100.6%**	**17.8**	**0.0**	**B**
WB	Left Turn	390	379	97.2%	23.6	0.0	C
	Through	10	11	110.0%	39.1	0.0	D
	Right Turn	50	51	102.0%	3.6	0.0	A
	Subtotal	**450**	**441**	**98.0%**	**21.7**	**0.0**	**C**
Total		**1,720**	**1,725**	**100.3%**	**18.3**	**0.0**	**B**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	570	585	102.6%	32.3	0.0	C
	Through	370	363	98.1%	8.6	0.0	A
	Right Turn	20	20	100.0%	2.6	0.0	A
	Subtotal	**960**	**968**	**100.8%**	**22.8**	**0.0**	**C**
SB	Left Turn	10	8	80.0%	44.2	0.0	D
	Through	610	605	99.2%	30.3	0.0	C
	Right Turn	290	300	103.4%	7.5	0.0	A
	Subtotal	**910**	**913**	**100.3%**	**22.9**	**0.0**	**C**
EB	Left Turn	160	159	99.4%	53.4	0.0	D
	Through	110	105	95.5%	22.4	0.0	C
	Right Turn	200	198	99.0%	2.0	0.0	A
	Subtotal	**470**	**462**	**98.3%**	**24.3**	**0.0**	**C**
WB	Left Turn	10	9	90.0%	38.2	0.0	D
	Through	210	212	101.0%	34.3	0.0	C
	Right Turn	10	11	110.0%	3.1	0.0	A
	Subtotal	**230**	**232**	**100.9%**	**33.0**	**0.0**	**C**
Total		**2,570**	**2,575**	**100.2%**	**24.0**	**0.0**	**C**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	54	108.0%	29.8	0.0	C
	Through	190	192	101.1%	35.1	0.0	D
	Right Turn	40	43	107.5%	25.3	0.0	C
	Subtotal	**280**	**289**	**103.2%**	**32.7**	**0.0**	**C**
SB	Left Turn	160	160	100.0%	33.1	0.0	C
	Through	130	128	98.5%	31.8	0.0	C
	Right Turn	150	152	101.3%	8.0	0.0	A
	Subtotal	**440**	**440**	**100.0%**	**24.1**	**0.0**	**C**
EB	Left Turn	120	123	102.5%	40.7	0.0	D
	Through	240	239	99.6%	21.5	0.0	C
	Right Turn	20	22	110.0%	13.1	0.0	B
	Subtotal	**380**	**384**	**101.1%**	**27.2**	**0.0**	**C**
WB	Left Turn	20	20	100.0%	59.5	0.0	E
	Through	350	357	102.0%	42.7	0.0	D
	Right Turn	180	179	99.4%	20.1	0.0	C
	Subtotal	**550**	**556**	**101.1%**	**36.0**	**0.0**	**D**
Total		**1,650**	**1,669**	**101.2%**	**30.2**	**0.0**	**C**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	20	20	100.0%	5.2	0.0	A
	Through	270	265	98.1%	2.6	0.0	A
	Right Turn	20	21	105.0%	1.2	0.0	A
	Subtotal	**310**	**306**	**98.7%**	**2.7**	**0.0**	**A**
SB	Left Turn	20	19	95.0%	2.6	0.0	A
	Through	370	373	100.8%	0.6	0.0	A
	Right Turn	10	11	110.0%	0.1	0.0	A
	Subtotal	**400**	**403**	**100.8%**	**0.7**	**0.0**	**A**
EB	Left Turn	30	29	96.7%	12.9	0.0	B
	Through	50	50	100.0%	12.3	0.0	B
	Right Turn	140	147	105.0%	5.3	0.0	A
	Subtotal	**220**	**226**	**102.7%**	**7.8**	**0.0**	**A**
WB	Left Turn	40	40	100.0%	10.7	0.0	B
	Through	50	50	100.0%	13.6	0.0	B
	Right Turn	30	31	103.3%	2.1	0.0	A
	Subtotal	**120**	**121**	**100.8%**	**9.7**	**0.0**	**A**
Total		**1,050**	**1,056**	**100.6%**	**3.8**	**0.0**	**A**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	80	79	98.8%	14.7	0.0	B
	Through						
	Right Turn	180	180	100.0%	4.4	0.0	A
	Subtotal	**260**	**259**	**99.6%**	**7.5**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	250	254	101.6%	11.0	0.0	B
	Right Turn	140	137	97.9%	5.2	0.0	A
	Subtotal	**390**	**391**	**100.3%**	**9.0**	**0.0**	**A**
WB	Left Turn	210	209	99.5%	15.3	0.0	B
	Through	490	489	99.8%	3.8	0.0	A
	Right Turn						
	Subtotal	**700**	**698**	**99.7%**	**7.2**	**0.0**	**A**
Total		**1,350**	**1,348**	**99.9%**	**7.8**	**0.0**	**A**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	130	129	99.2%	26.4	0.0	C
	Through	190	192	101.1%	17.3	0.0	B
	Right Turn	80	86	107.5%	2.3	0.0	A
	Subtotal	**400**	**407**	**101.8%**	**17.0**	**0.0**	**B**
SB	Left Turn	20	20	100.0%	32.5	0.0	C
	Through	180	184	102.2%	29.8	0.0	C
	Right Turn	310	311	100.3%	9.3	0.0	A
	Subtotal	**510**	**515**	**101.0%**	**17.5**	**0.0**	**B**
EB	Left Turn	200	195	97.5%	23.5	0.0	C
	Through	730	722	98.9%	16.4	0.0	B
	Right Turn	150	152	101.3%	3.0	0.0	A
	Subtotal	**1,080**	**1,069**	**99.0%**	**15.8**	**0.0**	**B**
WB	Left Turn	100	100	100.0%	25.9	0.0	C
	Through	540	531	98.3%	19.2	0.0	B
	Right Turn	30	30	100.0%	3.7	0.0	A
	Subtotal	**670**	**661**	**98.7%**	**19.5**	**0.0**	**B**
Total		**2,660**	**2,652**	**99.7%**	**17.2**	**0.0**	**B**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	60	58	96.7%	6.3	0.0	A
	Through						
	Right Turn	120	124	103.3%	3.6	0.0	A
	Subtotal	**180**	**182**	**101.1%**	**4.5**	**0.0**	**A**
EB	Left Turn	70	69	98.6%	2.0	0.0	A
	Through	130	130	100.0%	1.0	0.0	A
	Right Turn						
	Subtotal	**200**	**199**	**99.5%**	**1.3**	**0.0**	**A**
WB	Left Turn						
	Through	170	177	104.1%	3.0	0.0	A
	Right Turn	40	41	102.5%	1.7	0.0	A
	Subtotal	**210**	**218**	**103.8%**	**2.8**	**0.0**	**A**
Total		**590**	**599**	**101.5%**	**2.8**	**0.0**	**A**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	80	81	101.3%	25.2	0.0	D
	Through	50	51	102.0%	14.0	0.0	B
	Right Turn	10	11	110.0%	4.6	0.0	A
	Subtotal	**140**	**143**	**102.1%**	**19.6**	**0.0**	**C**
SB	Left Turn	10	9	90.0%	31.5	0.0	D
	Through	80	83	103.8%	21.5	0.0	C
	Right Turn	30	34	113.3%	5.7	0.0	A
	Subtotal	**120**	**126**	**105.0%**	**18.0**	**0.0**	**C**
EB	Left Turn	110	103	93.6%	25.4	0.0	D
	Through	660	671	101.7%	11.3	0.0	B
	Right Turn	60	65	108.3%	3.4	0.0	A
	Subtotal	**830**	**839**	**101.1%**	**12.4**	**0.0**	**B**
WB	Left Turn	10	10	100.0%	34.2	0.0	D
	Through	560	562	100.4%	18.7	0.0	C
	Right Turn	10	12	120.0%	3.8	0.0	A
	Subtotal	**580**	**584**	**100.7%**	**18.7**	**0.0**	**C**
Total		**1,670**	**1,692**	**101.3%**	**15.6**	**0.0**	**C**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	90	93	103.3%	14.9	0.0	B
	Through	60	62	103.3%	11.9	0.0	B
	Right Turn	20	23	115.0%	4.4	0.0	A
	Subtotal	**170**	**178**	**104.7%**	**12.5**	**0.0**	**B**
SB	Left Turn	110	115	104.5%	16.9	0.0	B
	Through	60	58	96.7%	11.7	0.0	B
	Right Turn	140	146	104.3%	4.7	0.0	A
	Subtotal	**310**	**319**	**102.9%**	**10.4**	**0.0**	**B**
EB	Left Turn	70	67	95.7%	20.5	0.0	C
	Through	320	315	98.4%	9.8	0.0	A
	Right Turn	50	51	102.0%	4.5	0.0	A
	Subtotal	**440**	**433**	**98.4%**	**10.8**	**0.0**	**B**
WB	Left Turn	40	37	92.5%	21.6	0.0	C
	Through	190	199	104.7%	11.3	0.0	B
	Right Turn	70	73	104.3%	4.8	0.0	A
	Subtotal	**300**	**309**	**103.0%**	**11.0**	**0.0**	**B**
Total		**1,220**	**1,239**	**101.6%**	**11.0**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	100	100.0%	35.7	0.0	D
	Through	320	324	101.3%	36.2	0.0	D
	Right Turn	130	134	103.1%	8.2	0.0	A
	Subtotal	**550**	**558**	**101.5%**	**29.4**	**0.0**	**C**
SB	Left Turn	300	296	98.7%	49.6	0.0	D
	Through	420	422	100.5%	41.8	0.0	D
	Right Turn	20	22	110.0%	38.8	0.0	D
	Subtotal	**740**	**740**	**100.0%**	**44.8**	**0.0**	**D**
EB	Left Turn	70	69	98.6%	61.7	0.0	E
	Through	300	299	99.7%	37.2	0.0	D
	Right Turn	70	71	101.4%	26.3	0.0	C
	Subtotal	**440**	**439**	**99.8%**	**39.3**	**0.0**	**D**
WB	Left Turn	160	156	97.5%	47.0	0.0	D
	Through	220	221	100.5%	30.7	0.0	C
	Right Turn	290	286	98.6%	9.0	0.0	A
	Subtotal	**670**	**663**	**99.0%**	**25.2**	**0.0**	**C**
Total		**2,400**	**2,400**	**100.0%**	**34.8**	**0.0**	**C**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	260	260	100.0%	29.9	0.0	C
	Through	110	115	104.5%	20.5	0.0	C
	Right Turn	80	75	93.8%	6.6	0.0	A
	Subtotal	**450**	**450**	**100.0%**	**23.6**	**0.0**	**C**
SB	Left Turn	30	31	103.3%	33.3	0.0	C
	Through	150	155	103.3%	29.2	0.0	C
	Right Turn	80	88	110.0%	9.0	0.0	A
	Subtotal	**260**	**274**	**105.4%**	**23.2**	**0.0**	**C**
EB	Left Turn	50	47	94.0%	34.8	0.0	C
	Through	360	369	102.5%	20.4	0.0	C
	Right Turn	150	155	103.3%	12.4	0.0	B
	Subtotal	**560**	**571**	**102.0%**	**19.4**	**0.0**	**B**
WB	Left Turn	150	152	101.3%	31.3	0.0	C
	Through	380	384	101.1%	14.7	0.0	B
	Right Turn	40	42	105.0%	8.2	0.0	A
	Subtotal	**570**	**578**	**101.4%**	**18.6**	**0.0**	**B**
Total		**1,840**	**1,873**	**101.8%**	**20.7**	**0.0**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	51	102.0%	36.3	0.0	D
	Through	830	840	101.2%	23.1	0.0	C
	Right Turn	40	43	107.5%	7.1	0.0	A
	Subtotal	**920**	**934**	**101.5%**	**23.1**	**0.0**	**C**
SB	Left Turn	100	95	95.0%	36.3	0.0	D
	Through	740	743	100.4%	20.2	0.0	C
	Right Turn	80	80	100.0%	14.6	0.0	B
	Subtotal	**920**	**918**	**99.8%**	**21.4**	**0.0**	**C**
EB	Left Turn	70	69	98.6%	33.0	0.0	C
	Through	30	28	93.3%	34.4	0.0	C
	Right Turn	50	54	108.0%	9.3	0.0	A
	Subtotal	**150**	**151**	**100.7%**	**24.8**	**0.0**	**C**
WB	Left Turn	60	60	100.0%	31.4	0.0	C
	Through	150	147	98.0%	31.7	0.0	C
	Right Turn	140	137	97.9%	10.9	0.0	B
	Subtotal	**350**	**344**	**98.3%**	**23.4**	**0.0**	**C**
Total		**2,340**	**2,347**	**100.3%**	**22.6**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	20	20	100.0%	18.8	0.0	B
	Through	410	406	99.0%	5.5	0.0	A
	Right Turn	80	80	100.0%	2.1	0.0	A
	Subtotal	**510**	**506**	**99.2%**	**5.5**	**0.0**	**A**
SB	Left Turn	10	11	110.0%	17.5	0.0	B
	Through	520	531	102.1%	6.5	0.0	A
	Right Turn	30	30	100.0%	3.5	0.0	A
	Subtotal	**560**	**572**	**102.1%**	**6.6**	**0.0**	**A**
EB	Left Turn	20	20	100.0%	19.5	0.0	B
	Through	10	11	110.0%	21.4	0.0	C
	Right Turn	20	24	120.0%	3.6	0.0	A
	Subtotal	**50**	**55**	**110.0%**	**12.9**	**0.0**	**B**
WB	Left Turn	30	32	106.7%	18.0	0.0	B
	Through	10	10	100.0%	16.9	0.0	B
	Right Turn	10	10	100.0%	3.3	0.0	A
	Subtotal	**50**	**52**	**104.0%**	**15.0**	**0.0**	**B**
Total		**1,170**	**1,185**	**101.3%**	**6.8**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	30	150.0%	21.3	0.0	C
	Through	113	428	378.8%	5.2	0.0	A
	Right Turn	110	362	329.1%	4.3	0.0	A
	Subtotal	**243**	**820**	**337.4%**	**5.4**	**0.0**	**A**
SB	Left Turn	23	28	121.7%	23.6	0.0	C
	Through	123	601	488.6%	8.0	0.0	A
	Right Turn	150	351	234.0%	6.4	0.0	A
	Subtotal	**296**	**980**	**331.1%**	**7.9**	**0.0**	**A**
EB	Left Turn	23	55	239.1%	17.7	0.0	B
	Through						
	Right Turn	15	29	193.3%	18.1	0.0	B
	Subtotal	**38**	**84**	**221.1%**	**17.8**	**0.0**	**B**
WB	Left Turn	45	124	275.6%	16.9	0.0	B
	Through						
	Right Turn	13	22	169.2%	19.0	0.0	B
	Subtotal	**58**	**146**	**251.7%**	**17.2**	**0.0**	**B**
Total		**635**	**2,030**	**319.7%**	**8.0**	**0.0**	**A**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	65	153	235.4%	16.9	0.0	B
	Through	110	259	235.5%	5.9	0.0	A
	Right Turn	90	183	203.3%	3.5	0.0	A
	Subtotal	**265**	**595**	**224.5%**	**8.0**	**0.0**	**A**
SB	Left Turn	30	38	126.7%	20.7	0.0	C
	Through	125	470	376.0%	10.6	0.0	B
	Right Turn	15	52	346.7%	3.9	0.0	A
	Subtotal	**170**	**560**	**329.4%**	**10.7**	**0.0**	**B**
EB	Left Turn	5	9	180.0%	15.1	0.0	B
	Through						
	Right Turn	35	0	0.0%	0.0	0.0	A
	Subtotal	**40**	**9**	**22.5%**	**15.1**	**0.0**	**B**
WB	Left Turn	45	125	277.8%	16.8	0.0	B
	Through						
	Right Turn	18	0	0.0%	0.0	0.0	A
	Subtotal	**63**	**125**	**198.4%**	**16.8**	**0.0**	**B**
Total		**538**	**1,289**	**239.6%**	**10.1**	**0.0**	**B**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	Does Not Exist in this Scenario					
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total							

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	5	9	180.0%	36.5	0.0	D
	Through	108	310	287.0%	20.2	0.0	C
	Right Turn	55	189	343.6%	6.1	0.0	A
	Subtotal	**168**	**508**	**302.4%**	**15.2**	**0.0**	**B**
SB	Left Turn	5	7	140.0%	40.7	0.0	D
	Through	138	352	255.1%	26.7	0.0	C
	Right Turn	183	496	271.0%	10.2	0.0	B
	Subtotal	**326**	**855**	**262.3%**	**17.2**	**0.0**	**B**
EB	Left Turn	178	618	347.2%	24.7	0.0	C
	Through	58	44	75.9%	15.2	0.0	B
	Right Turn	13	29	223.1%	3.3	0.0	A
	Subtotal	**249**	**691**	**277.5%**	**23.2**	**0.0**	**C**
WB	Left Turn	53	168	317.0%	29.6	0.0	C
	Through	73	91	124.7%	21.8	0.0	C
	Right Turn						
	Subtotal	**126**	**259**	**205.6%**	**26.9**	**0.0**	**C**
Total		**869**	**2,313**	**266.2%**	**19.7**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	106	187	233	0	0
	Through	2,428	34	79	104	0	0
	Right Turn	2,428	34	79	104	0	0
SB	Left Turn	300	17	50	67	0	0
	Through	2,373	70	143	175	0	0
	Right Turn	2,373	70	143	175	0	0
EB	Left Turn	530	34	80	108	0	0
	Through	3,295	112	194	219	0	0
	Right Turn	410	42	78	99	0	0
WB	Left Turn	580	115	202	255	0	0
	Through	2,518	125	219	253	0	0
	Right Turn	530	20	54	72	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	23	53	70	0	0
	Through	923	25	54	70	0	0
	Right Turn						
SB	Left Turn	550	19	54	79	0	0
	Through	3,946	34	67	90	0	0
	Right Turn	3,946	21	52	67	0	0
EB	Left Turn	715	26	69	96	0	0
	Through	2,518	76	146	174	0	0
	Right Turn	355	68	132	148	0	0
WB	Left Turn	920	97	151	173	0	0
	Through	2,590	96	176	222	0	0
	Right Turn	750	7	29	43	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	22	58	76	0	0
	Through	464	102	182	204	1	0
	Right Turn	464	94	158	185	0	0
SB	Left Turn	290	67	133	169	0	0
	Through	5,159	142	242	290	0	0
	Right Turn	5,159	189	304	351	0	0
EB	Left Turn	250	98	180	216	0	0
	Through	5,459	77	154	185	0	0
	Right Turn	5,459	77	154	185	0	0
WB	Left Turn	90	12	52	**112**	0	0
	Through	491	251	417	467	37	0
	Right Turn	160	107	**252**	**220**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	72	135	161	0	0
	Right Turn						
SB	Left Turn						
	Through	464	93	199	243	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	93	151	168	0	0
	Through						
	Right Turn	672	93	151	168	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	21	51	63	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	72	137	164	0	0
	Right Turn	491	72	137	164	0	0
WB	Left Turn	530	80	134	172	0	0
	Through	3,699	2	31	41	0	0
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	48	103	125	0	0
	Through	737	51	100	135	0	0
	Right Turn	737	20	52	71	0	0
SB	Left Turn	550	22	57	73	0	0
	Through	1,039	66	120	133	0	0
	Right Turn	650	57	111	141	0	0
EB	Left Turn	300	25	60	73	0	0
	Through						
	Right Turn	1,111	65	126	158	0	0
WB	Left Turn	1,063	52	101	124	0	0
	Through						
	Right Turn	1,063	103	171	192	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	89	153	177	0	0
	Through	3,853	137	206	235	0	0
	Right Turn	200	39	80	107	0	0
SB	Left Turn	500	69	124	143	0	0
	Through	1,480	161	234	251	0	0
	Right Turn	1,480	92	174	198	0	0
EB	Left Turn	350	96	153	191	0	0
	Through	4,930	109	162	180	0	0
	Right Turn	350	50	87	101	0	0
WB	Left Turn	300	179	132	157	0	0
	Through	5,938	176	250	272	0	0
	Right Turn	350	97	190	222	0	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	127	216	256	0	0
	Through	902	17	47	69	0	0
	Right Turn	600	17	48	71	0	0
SB	Left Turn	650	15	45	67	0	0
	Through	952	58	104	126	0	0
	Right Turn	650	76	143	192	0	0
EB	Left Turn	500	14	41	58	0	0
	Through						
	Right Turn	860	33	77	101	0	0
WB	Left Turn	880	66	111	128	0	0
	Through						
	Right Turn	880	17	50	68	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	153	225	250	0	0
	Through	1,262	77	139	163	0	0
	Right Turn	1,262	56	114	154	0	0
SB	Left Turn	300	25	62	82	0	0
	Through	1,262	147	214	242	0	0
	Right Turn	300	65	111	132	0	0
EB	Left Turn	300	67	123	143	0	0
	Through	1,409	95	153	180	0	0
	Right Turn	300	40	79	97	0	0
WB	Left Turn	300	55	109	130	0	0
	Through	3,308	154	225	258	0	0
	Right Turn	3,308	96	186	205	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	91	166	**201**	1	0
	Through	2,570	36	82	102	0	0
	Right Turn	2,570	68	124	142	0	0
SB	Left Turn	150	45	99	138	0	0
	Through	2,170	72	141	186	12	0
	Right Turn	75	46	**97**	**131**	1	0
EB	Left Turn	525	30	79	101	0	0
	Through	2,722	61	113	154	0	0
	Right Turn	2,722	57	117	160	0	0
WB	Left Turn	625	81	129	148	0	0
	Through	3,227	81	153	184	0	0
	Right Turn	3,227	96	174	197	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	27	66	80	0	0
	Through	1,181	61	112	140	0	0
	Right Turn	1,181	60	109	133	0	0
SB	Left Turn	315	33	82	114	0	0
	Through	3,988	91	168	216	0	0
	Right Turn	3,988	139	229	265	0	0
EB	Left Turn	410	47	100	127	0	0
	Through	1,731	22	62	82	0	0
	Right Turn	1,731	35	72	90	0	0
WB	Left Turn	1,878	139	222	258	0	0
	Through	1,878	7	27	42	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	185	263	286	0	0
	Through	2,052	63	111	129	0	0
	Right Turn	2,052	40	91	111	0	0
SB	Left Turn	300	9	34	48	0	0
	Through	466	207	303	338	1	0
	Right Turn	300	69	125	156	0	0
EB	Left Turn	1,374	88	147	176	0	0
	Through	1,374	34	72	90	0	0
	Right Turn						
WB	Left Turn	300	9	34	49	0	0
	Through	1,274	88	141	159	0	0
	Right Turn	300	7	29	50	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	48	131	203	0	0
	Through	1,227	169	313	377	3	0
	Right Turn	1,227	169	313	377	3	0
SB	Left Turn	175	110	**204**	**225**	2	0
	Through	1,669	104	238	309	9	0
	Right Turn	100	72	**140**	**156**	1	0
EB	Left Turn	3,220	85	165	198	0	0
	Through	3,220	109	211	256	0	0
	Right Turn	3,220	109	211	256	0	0
WB	Left Turn	75	27	**85**	**134**	1	0
	Through	3,356	261	483	556	48	0
	Right Turn	150	124	**251**	**210**	1	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	6	28	45	0	0
	Through	1,058	1	8	11	0	0
	Right Turn	1,058	0	0	7	0	0
SB	Left Turn	300	5	25	42	0	0
	Through	414	0	6	13	0	0
	Right Turn	414	0	3	5	0	0
EB	Left Turn	300	23	57	77	0	0
	Through	1,163	32	71	87	0	0
	Right Turn	300	53	92	120	0	0
WB	Left Turn	300	25	57	76	0	0
	Through	1,019	27	58	72	0	0
	Right Turn	300	16	42	58	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	38	73	87	0	0
	Through						
	Right Turn	150	39	63	80	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	60	99	111	0	0
	Right Turn	300	61	108	136	0	0
WB	Left Turn	400	86	149	190	0	0
	Through	873	35	78	100	0	0
	Right Turn						

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,090	46	90	107	0	0
	Through	1,090	46	97	114	0	0
	Right Turn	1,000	21	51	74	0	0
SB	Left Turn	520	13	40	62	0	0
	Through	1,218	58	110	132	0	0
	Right Turn	720	71	128	156	0	0
EB	Left Turn	800	69	116	138	0	0
	Through	1,066	117	183	221	0	0
	Right Turn	1,000	34	70	86	0	0
WB	Left Turn	1,607	36	74	93	0	0
	Through	1,607	75	138	170	0	0
	Right Turn	850	8	29	48	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn	826	33	65	75	0	0
	Through						
	Right Turn	300	44	73	83	0	0
EB	Left Turn	300	14	45	63	0	0
	Through						
	Right Turn						
WB	Left Turn						
	Through	5,348	1	10	11	0	0
	Right Turn	5,348	1	10	11	0	0

Intersection 18 **Bentley Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	49	99	128	0	0
	Through	1,462	23	59	79	0	0
	Right Turn	300	5	20	34	0	0
SB	Left Turn	150	8	30	47	0	0
	Through	1,179	44	98	124	0	0
	Right Turn	200	14	39	56	0	0
EB	Left Turn	680	61	114	143	0	0
	Through	2,753	77	145	185	0	0
	Right Turn	580	14	39	57	0	0
WB	Left Turn	770	9	34	58	0	0
	Through	2,387	98	162	205	0	0
	Right Turn	720	4	20	32	0	0

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	45	83	102	0	0
	Through	1,264	35	70	94	0	0
	Right Turn	1,264	35	70	94	0	0
SB	Left Turn	100	48	89	**116**	1	0
	Through	1,626	26	65	102	0	0
	Right Turn	75	42	**76**	**96**	0	0
EB	Left Turn	250	35	74	97	0	0
	Through	1,565	46	99	127	0	0
	Right Turn	1,565	56	111	137	0	0
WB	Left Turn	250	28	63	74	0	0
	Through	2,560	61	115	138	0	0
	Right Turn	300	37	79	102	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	152	247	286	0	0
	Through	1,934	155	239	254	0	0
	Right Turn	300	60	111	153	0	0
SB	Left Turn	5,862	285	443	495	0	0
	Through	5,862	285	443	495	0	0
	Right Turn	5,862	243	397	450	0	0
EB	Left Turn	50	**75**	**128**	**110**	31	0
	Through	2,671	153	297	373	44	0
	Right Turn	200	144	**237**	**255**	2	0
WB	Left Turn	300	131	230	267	0	0
	Through	2,545	132	241	284	0	0
	Right Turn	2,545	81	151	202	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	93	140	159	0	0
	Through	1,873	57	113	145	13	0
	Right Turn	50	37	**82**	**98**	1	0
SB	Left Turn	100	26	70	**103**	0	0
	Through	2,914	89	156	189	8	0
	Right Turn	100	46	**102**	**153**	0	0
EB	Left Turn	250	31	68	83	0	0
	Through	1,994	102	177	205	0	0
	Right Turn	1,994	108	192	232	0	0
WB	Left Turn	200	83	146	174	0	0
	Through	2,690	69	128	150	0	0
	Right Turn	2,690	78	148	188	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	45	96	120	0	0
	Through	1,383	167	270	309	0	0
	Right Turn	300	19	53	67	0	0
SB	Left Turn	400	70	136	159	0	0
	Through	2,186	130	225	264	0	0
	Right Turn	2,186	153	248	281	0	0
EB	Left Turn	225	56	112	141	0	0
	Through	5,602	19	50	61	0	0
	Right Turn	225	40	84	110	0	0
WB	Left Turn	225	42	92	121	0	0
	Through	2,173	54	100	120	0	0
	Right Turn	225	41	88	117	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	17	50	67	0	0
	Through	1,326	48	102	127	0	0
	Right Turn	1,326	26	69	97	0	0
SB	Left Turn	350	12	40	57	0	0
	Through	1,404	70	128	152	0	0
	Right Turn	350	9	35	49	0	0
EB	Left Turn	225	15	43	61	0	0
	Through	1,997	8	30	45	0	0
	Right Turn	225	12	33	48	0	0
WB	Left Turn	175	23	57	73	0	0
	Through	2,609	14	43	58	0	0
	Right Turn	2,609	14	43	58	0	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	24	62	82	0	0
	Through	1,357	41	89	110	0	0
	Right Turn	700	53	96	127	0	0
SB	Left Turn	600	16	46	72	0	0
	Through	1,181	58	117	154	0	0
	Right Turn	600	57	105	135	0	0
EB	Left Turn	500	29	64	75	0	0
	Through						
	Right Turn	500	23	59	76	0	0
WB	Left Turn	500	39	74	88	0	0
	Through						
	Right Turn	350	18	52	75	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2022 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 25 **Roselle & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	62	122	154	0	0
	Through	671	32	83	108	0	0
	Right Turn	400	19	55	84	0	0
SB	Left Turn	550	20	57	87	0	0
	Through	1,058	51	102	125	0	0
	Right Turn	550	5	27	51	0	0
EB	Left Turn	500	3	16	27	0	0
	Through						
	Right Turn	1,221	47	91	113	0	0
WB	Left Turn	1,142	41	73	85	0	0
	Through						
	Right Turn	1,142	29	66	80	0	0

Intersection 27 **NCC & Albers Rd** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	6	22	28	0	0
	Through	2,741	125	232	269	2	0
	Right Turn	300	39	82	101	0	0
SB	Left Turn	200	3	16	28	0	0
	Through	1,383	127	250	292	2	0
	Right Turn						
EB	Left Turn	920	133	236	283	0	0
	Through	1,126	11	37	53	0	0
	Right Turn	580	14	45	64	0	0
WB	Left Turn	720	54	102	126	0	0
	Through	2,965	27	65	80	0	0
	Right Turn	580	6	28	50	0	0

Intersection 28 **NCC & SMITH** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,306	17	44	59	0	0
	Through	1,306	17	44	59	0	0
	Right Turn	1,306	17	44	59	0	0
SB	Left Turn	1,066	14	42	57	0	0
	Through	1,066	14	42	57	0	0
	Right Turn	630	23	53	68	0	0
EB	Left Turn	870	35	74	97	0	0
	Through	5,343	12	43	65	0	0
	Right Turn	670	1	11	20	0	0
WB	Left Turn	650	8	29	43	0	0
	Through	4,038	23	67	93	0	0
	Right Turn	650	3	20	40	0	0

MOVEMENT SUMMARY

Site: 28. NCC & Stearns Rd - Alt 1A AM_Year 2022

28. NCC & Stearns Road
Alt 1A - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Sterns Road											
3	L2	11	13.0	0.017	4.2	LOS A	0.1	1.9	0.53	0.35	31.2
8	T1	11	13.0	0.017	4.1	LOS A	0.1	1.9	0.50	0.34	27.7
18	R2	11	13.0	0.017	4.0	LOS A	0.1	1.8	0.48	0.33	30.7
Approach		32	13.0	0.017	4.1	LOS A	0.1	1.9	0.51	0.34	29.8
East: NCC											
1	L2	11	13.0	0.124	4.1	LOS A	0.6	15.6	0.38	0.23	31.7
6	T1	274	13.0	0.124	4.1	LOS A	0.6	15.6	0.36	0.22	32.3
16	R2	11	13.0	0.124	4.1	LOS A	0.5	14.3	0.35	0.21	29.2
Approach		295	13.0	0.124	4.1	LOS A	0.6	15.6	0.36	0.22	32.2
North: Sterns Road											
7	L2	11	13.0	0.020	3.6	LOS A	0.1	2.3	0.44	0.26	31.9
4	T1	11	13.0	0.020	3.6	LOS A	0.1	2.3	0.44	0.26	27.6
14	R2	168	13.0	0.157	4.8	LOS A	0.6	17.9	0.44	0.32	30.3
Approach		189	13.0	0.157	4.6	LOS A	0.6	17.9	0.44	0.31	30.2
West: NCC											
5	L2	168	13.0	0.157	3.8	LOS A	0.7	20.4	0.14	0.04	29.9
2	T1	263	13.0	0.157	3.8	LOS A	0.7	20.4	0.13	0.04	32.1
12	R2	11	13.0	0.157	3.8	LOS A	0.7	18.4	0.13	0.04	29.3
Approach		442	13.0	0.157	3.8	LOS A	0.7	20.4	0.13	0.04	31.1
All Vehicles		958	13.0	0.157	4.1	LOS A	0.7	20.4	0.28	0.16	31.2

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 28. NCC & Stearns Rd - Alt 1A PM_Year 2022

28. NCC & Stearns Road
Alt 1A - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Sterns Road											
3	L2	11	10.0	0.019	4.7	LOS A	0.1	2.1	0.58	0.43	31.0
8	T1	11	10.0	0.019	4.6	LOS A	0.1	2.1	0.56	0.41	27.5
18	R2	11	10.0	0.019	4.5	LOS A	0.1	1.9	0.54	0.40	30.6
Approach		32	10.0	0.019	4.6	LOS A	0.1	2.1	0.56	0.41	29.6
East: NCC											
1	L2	11	10.0	0.124	4.3	LOS A	0.6	15.4	0.43	0.29	31.6
6	T1	263	10.0	0.124	4.2	LOS A	0.6	15.4	0.42	0.28	32.3
16	R2	11	10.0	0.124	4.2	LOS A	0.5	14.1	0.40	0.26	29.2
Approach		284	10.0	0.124	4.2	LOS A	0.6	15.4	0.42	0.28	32.1
North: Sterns Road											
7	L2	11	10.0	0.019	3.5	LOS A	0.1	2.2	0.43	0.25	32.0
4	T1	11	10.0	0.019	3.5	LOS A	0.1	2.2	0.43	0.25	27.7
14	R2	232	10.0	0.206	5.1	LOS A	0.9	24.7	0.45	0.33	30.2
Approach		253	10.0	0.206	4.9	LOS A	0.9	24.7	0.45	0.32	30.2
West: NCC											
5	L2	232	10.0	0.200	4.1	LOS A	1.0	27.4	0.14	0.04	29.7
2	T1	337	10.0	0.200	4.1	LOS A	1.0	27.4	0.13	0.04	32.0
12	R2	11	10.0	0.200	4.1	LOS A	0.9	24.7	0.13	0.04	29.2
Approach		579	10.0	0.200	4.1	LOS A	1.0	27.4	0.14	0.04	31.0
All Vehicles		1147	10.0	0.206	4.3	LOS A	1.0	27.4	0.29	0.17	31.0

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR 120/108 - Alt 1A AM_Year 2022

29. NCC & SR 120/108
Alt 1A - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	11	13.0	0.019	3.4	LOS A	0.1	2.0	0.39	0.22	32.0
8	T1	11	13.0	0.019	3.4	LOS A	0.1	2.0	0.39	0.22	27.7
18	R2	263	13.0	0.178	0.0	LOS A	0.0	0.0	0.00	0.00	30.6
Approach		284	13.0	0.178	0.3	LOS A	0.1	2.0	0.03	0.02	30.5
East: SR 120/108											
1	L2	242	13.0	0.290	5.6	LOS A	1.4	40.0	0.19	0.07	30.6
6	T1	453	13.0	0.290	5.6	LOS A	1.4	40.0	0.19	0.07	31.3
16	R2	11	13.0	0.290	5.6	LOS A	1.4	40.0	0.19	0.07	28.7
Approach		705	13.0	0.290	5.6	LOS A	1.4	40.0	0.19	0.07	31.0
North: NCC											
7	L2	21	13.0	0.208	7.5	LOS A	0.8	21.8	0.64	0.64	31.2
4	T1	21	13.0	0.208	7.5	LOS A	0.8	21.8	0.64	0.64	30.4
14	R2	105	13.0	0.208	7.5	LOS A	0.8	21.8	0.64	0.64	29.1
Approach		147	13.0	0.208	7.5	LOS A	0.8	21.8	0.64	0.64	29.5
West: SR 120/108											
5	L2	21	13.0	0.020	3.6	LOS A	0.1	2.3	0.43	0.25	29.5
2	T1	232	13.0	0.242	5.6	LOS A	1.1	29.6	0.46	0.35	31.7
12	R2	32	13.0	0.242	5.6	LOS A	1.1	29.6	0.46	0.35	30.3
Approach		284	13.0	0.242	5.4	LOS A	1.1	29.6	0.46	0.34	31.4
All Vehicles		1421	13.0	0.290	4.7	LOS A	1.4	40.0	0.26	0.17	30.8

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR 120/108 - Alt 1A PM_Year 2022

29. NCC & SR120/108
Alt 1A - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	32	10.0	0.070	4.6	LOS A	0.3	7.2	0.52	0.42	31.6
8	T1	32	10.0	0.070	4.6	LOS A	0.3	7.2	0.52	0.42	27.3
18	R2	295	10.0	0.194	0.0	LOS A	0.0	0.0	0.00	0.00	30.6
Approach		358	10.0	0.194	0.8	LOS A	0.3	7.2	0.09	0.07	30.3
East: SR 120/108											
1	L2	253	10.0	0.285	6.1	LOS A	1.4	37.3	0.39	0.26	30.2
6	T1	358	10.0	0.285	6.1	LOS A	1.4	37.3	0.39	0.26	31.2
16	R2	11	10.0	0.285	6.1	LOS A	1.4	37.3	0.39	0.26	28.5
Approach		621	10.0	0.285	6.1	LOS A	1.4	37.3	0.39	0.26	30.7
North: NCC											
7	L2	21	10.0	0.093	5.5	LOS A	0.4	9.5	0.58	0.52	31.7
4	T1	21	10.0	0.093	5.5	LOS A	0.4	9.5	0.58	0.52	30.9
14	R2	32	10.0	0.093	5.5	LOS A	0.4	9.5	0.58	0.52	29.6
Approach		74	10.0	0.093	5.5	LOS A	0.4	9.5	0.58	0.52	30.5
West: SR 120/108											
5	L2	105	10.0	0.098	4.2	LOS A	0.4	11.8	0.46	0.31	29.3
2	T1	379	10.0	0.350	6.7	LOS A	1.7	47.2	0.51	0.40	31.3
12	R2	11	10.0	0.350	6.7	LOS A	1.7	47.2	0.51	0.40	29.9
Approach		495	10.0	0.350	6.2	LOS A	1.7	47.2	0.50	0.38	30.8
All Vehicles		1547	10.0	0.350	4.9	LOS A	1.7	47.2	0.37	0.27	30.6

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 40. NCC & Minor Rd - Alt 1B AM_2022

40. NCC & Minor Road
Alt 1B - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Minor Road											
3	L2	11	13.0	0.027	3.3	LOS A	0.1	2.9	0.35	0.19	32.1
8	T1	11	13.0	0.027	3.3	LOS A	0.1	2.9	0.35	0.19	27.9
18	R2	11	13.0	0.027	3.3	LOS A	0.1	2.9	0.35	0.19	30.1
Approach		32	13.0	0.027	3.3	LOS A	0.1	2.9	0.35	0.19	29.9
East: NCC											
1	L2	11	13.0	0.086	3.2	LOS A	0.4	11.1	0.14	0.04	31.6
6	T1	221	13.0	0.086	3.2	LOS A	0.4	11.1	0.13	0.04	32.4
16	R2	11	13.0	0.086	3.2	LOS A	0.4	10.0	0.12	0.04	29.4
Approach		242	13.0	0.086	3.2	LOS A	0.4	11.1	0.13	0.04	32.2
North: Minor Road											
7	L2	11	13.0	0.028	3.4	LOS A	0.1	2.9	0.37	0.21	32.0
4	T1	11	13.0	0.028	3.4	LOS A	0.1	2.9	0.37	0.21	27.8
14	R2	11	13.0	0.028	3.4	LOS A	0.1	2.9	0.37	0.21	30.1
Approach		32	13.0	0.028	3.4	LOS A	0.1	2.9	0.37	0.21	29.9
West: NCC											
5	L2	11	13.0	0.079	3.2	LOS A	0.4	10.0	0.14	0.04	31.6
2	T1	200	13.0	0.079	3.2	LOS A	0.4	10.0	0.13	0.04	32.4
12	R2	11	13.0	0.079	3.2	LOS A	0.3	9.0	0.12	0.04	29.4
Approach		221	13.0	0.079	3.2	LOS A	0.4	10.0	0.13	0.04	32.2
All Vehicles		526	13.0	0.086	3.2	LOS A	0.4	11.1	0.16	0.06	31.9

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 40. NCC & Minor Rd - Alt 1B PM_2022

40. NCC & Minor Road
Alt 1B - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Minor Road											
3	L2	11	10.0	0.030	3.7	LOS A	0.1	3.1	0.43	0.28	31.9
8	T1	11	10.0	0.030	3.7	LOS A	0.1	3.1	0.43	0.28	27.8
18	R2	11	10.0	0.030	3.7	LOS A	0.1	3.1	0.43	0.28	30.0
Approach		32	10.0	0.030	3.7	LOS A	0.1	3.1	0.43	0.28	29.8
East: NCC											
1	L2	11	10.0	0.095	3.2	LOS A	0.5	12.3	0.14	0.04	31.6
6	T1	253	10.0	0.095	3.2	LOS A	0.5	12.3	0.13	0.04	32.4
16	R2	11	10.0	0.095	3.2	LOS A	0.4	11.1	0.12	0.04	29.4
Approach		274	10.0	0.095	3.2	LOS A	0.5	12.3	0.13	0.04	32.3
North: Minor Road											
7	L2	11	10.0	0.028	3.4	LOS A	0.1	2.9	0.39	0.23	32.1
4	T1	11	10.0	0.028	3.4	LOS A	0.1	2.9	0.39	0.23	27.8
14	R2	11	10.0	0.028	3.4	LOS A	0.1	2.9	0.39	0.23	30.1
Approach		32	10.0	0.028	3.4	LOS A	0.1	2.9	0.39	0.23	29.9
West: NCC											
5	L2	11	10.0	0.120	3.4	LOS A	0.6	16.1	0.14	0.04	31.6
2	T1	326	10.0	0.120	3.4	LOS A	0.6	16.1	0.13	0.04	32.4
12	R2	11	10.0	0.120	3.4	LOS A	0.5	14.5	0.13	0.04	29.4
Approach		347	10.0	0.120	3.4	LOS A	0.6	16.1	0.13	0.04	32.2
All Vehicles		684	10.0	0.120	3.4	LOS A	0.6	16.1	0.16	0.06	32.0

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR120/108- Alt 1B AM_2022

29. NCC & SR 120/108
Alt 1B - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	21	13.0	0.017	3.1	LOS A	0.1	1.8	0.29	0.14	30.4
18	R2	200	13.0	0.135	0.0	LOS A	0.0	0.0	0.00	0.00	30.4
Approach		221	13.0	0.135	0.3	LOS A	0.1	1.8	0.03	0.01	30.4
East: SR 120/108											
1	L2	168	13.0	0.136	4.0	LOS A	0.6	16.0	0.11	0.03	30.0
6	T1	168	13.0	0.136	4.0	LOS A	0.6	16.0	0.11	0.03	32.2
Approach		337	13.0	0.136	4.0	LOS A	0.6	16.0	0.11	0.03	31.1
West: SR 120/108											
5u	U	1	13.0	0.001	3.0	LOS A	0.0	0.1	0.33	0.12	30.7
2	T1	158	13.0	0.189	4.6	LOS A	0.8	23.1	0.35	0.21	31.8
12	R2	74	13.0	0.189	4.6	LOS A	0.8	23.1	0.35	0.21	30.5
Approach		233	13.0	0.189	4.6	LOS A	0.8	23.1	0.35	0.21	31.4
All Vehicles		791	13.0	0.189	3.1	LOS A	0.8	23.1	0.16	0.08	31.0

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR120/108- Alt 1B PM_2022

29. NCC & SR 120/108
Alt 1B - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	74	10.0	0.062	3.6	LOS A	0.3	6.8	0.36	0.22	30.2
18	R2	274	10.0	0.180	0.0	LOS A	0.0	0.0	0.00	0.00	30.4
Approach		347	10.0	0.180	0.8	LOS A	0.3	6.8	0.08	0.05	30.4
East: SR 120/108											
1	L2	242	10.0	0.201	4.7	LOS A	0.9	25.1	0.24	0.11	29.8
6	T1	211	10.0	0.175	4.5	LOS A	0.8	21.3	0.23	0.10	32.0
Approach		453	10.0	0.201	4.6	LOS A	0.9	25.1	0.23	0.11	30.8
West: SR 120/108											
5u	U	1	10.0	0.001	3.2	LOS A	0.0	0.1	0.39	0.16	30.7
2	T1	232	10.0	0.224	5.1	LOS A	1.0	27.8	0.42	0.29	31.7
12	R2	32	10.0	0.224	5.1	LOS A	1.0	27.8	0.42	0.29	30.4
Approach		264	10.0	0.224	5.1	LOS A	1.0	27.8	0.42	0.29	31.5
All Vehicles		1064	10.0	0.224	3.5	LOS A	1.0	27.8	0.23	0.13	30.8

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 28. NCC & Stearns Rd - Alt 2A AM_2022

28. NCC & Stearns Road
Alt 2A - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Sterns Road											
3	L2	11	13.0	0.017	4.1	LOS A	0.1	1.9	0.51	0.33	31.2
8	T1	11	13.0	0.017	4.0	LOS A	0.1	1.9	0.49	0.32	27.7
18	R2	11	13.0	0.017	3.9	LOS A	0.1	1.7	0.47	0.31	30.8
Approach		32	13.0	0.017	4.0	LOS A	0.1	1.9	0.49	0.32	29.8
East: NCC											
1	L2	11	13.0	0.112	4.1	LOS A	0.5	13.9	0.39	0.24	31.7
6	T1	242	13.0	0.112	4.0	LOS A	0.5	13.9	0.37	0.23	32.3
16	R2	11	13.0	0.112	4.0	LOS A	0.5	12.7	0.35	0.22	29.3
Approach		263	13.0	0.112	4.0	LOS A	0.5	13.9	0.37	0.23	32.2
North: Sterns Road											
7	L2	11	13.0	0.020	3.5	LOS A	0.1	2.2	0.42	0.24	32.0
4	T1	11	13.0	0.020	3.5	LOS A	0.1	2.2	0.42	0.24	27.6
14	R2	147	13.0	0.133	4.4	LOS A	0.5	15.0	0.41	0.28	30.5
Approach		168	13.0	0.133	4.3	LOS A	0.5	15.0	0.41	0.28	30.4
West: NCC											
5	L2	179	13.0	0.146	3.7	LOS A	0.7	18.7	0.14	0.04	29.7
2	T1	221	13.0	0.146	3.7	LOS A	0.7	18.7	0.12	0.04	32.3
12	R2	11	13.0	0.146	3.7	LOS A	0.6	16.8	0.12	0.04	29.4
Approach		411	13.0	0.146	3.7	LOS A	0.7	18.7	0.13	0.04	31.0
All Vehicles		874	13.0	0.146	3.9	LOS A	0.7	18.7	0.27	0.15	31.2

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 28. NCC & Stearns Rd - Alt 2A PM_2022

28. NCC & Stearns Road
Alt 2A - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Sterns Road											
3	L2	11	10.0	0.019	4.6	LOS A	0.1	2.0	0.57	0.42	31.0
8	T1	11	10.0	0.019	4.5	LOS A	0.1	2.0	0.55	0.40	27.6
18	R2	11	10.0	0.019	4.4	LOS A	0.1	1.9	0.53	0.39	30.6
Approach		32	10.0	0.019	4.5	LOS A	0.1	2.0	0.55	0.40	29.7
East: NCC											
1	L2	11	10.0	0.095	4.1	LOS A	0.4	11.5	0.45	0.30	31.6
6	T1	189	10.0	0.095	4.1	LOS A	0.4	11.5	0.43	0.29	32.3
16	R2	11	10.0	0.095	4.0	LOS A	0.4	10.5	0.41	0.28	29.2
Approach		211	10.0	0.095	4.1	LOS A	0.4	11.5	0.43	0.29	32.1
North: Sterns Road											
7	L2	21	10.0	0.027	3.3	LOS A	0.1	3.1	0.37	0.20	31.6
4	T1	11	10.0	0.027	3.3	LOS A	0.1	3.1	0.37	0.20	27.4
14	R2	263	10.0	0.217	4.9	LOS A	1.0	27.0	0.39	0.26	30.3
Approach		295	10.0	0.217	4.7	LOS A	1.0	27.0	0.39	0.25	30.3
West: NCC											
5	L2	263	10.0	0.191	4.1	LOS A	0.9	25.4	0.17	0.06	29.4
2	T1	274	10.0	0.191	4.1	LOS A	0.9	25.4	0.15	0.05	32.3
12	R2	11	10.0	0.191	4.1	LOS A	0.8	22.9	0.15	0.05	29.2
Approach		547	10.0	0.191	4.1	LOS A	0.9	25.4	0.16	0.05	30.7
All Vehicles		1084	10.0	0.217	4.3	LOS A	1.0	27.0	0.29	0.16	30.8

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR 120/108 - Alt 2A AM_2022

29. NCC & SR 120/108
Alt 2A - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	11	13.0	0.020	3.6	LOS A	0.1	2.1	0.42	0.25	32.0
8	T1	11	13.0	0.020	3.6	LOS A	0.1	2.1	0.42	0.25	27.6
18	R2	221	13.0	0.149	0.0	LOS A	0.0	0.0	0.00	0.00	30.6
Approach		242	13.0	0.149	0.3	LOS A	0.1	2.1	0.04	0.02	30.5
East: SR 120/108											
1	L2	211	13.0	0.290	5.6	LOS A	1.4	40.0	0.19	0.07	30.9
6	T1	484	13.0	0.290	5.6	LOS A	1.4	40.0	0.19	0.07	31.3
16	R2	11	13.0	0.290	5.6	LOS A	1.4	40.0	0.19	0.07	28.7
Approach		705	13.0	0.290	5.6	LOS A	1.4	40.0	0.19	0.07	31.1
North: NCC											
7	L2	21	13.0	0.208	7.5	LOS A	0.8	21.8	0.64	0.64	31.2
4	T1	21	13.0	0.208	7.5	LOS A	0.8	21.8	0.64	0.64	30.4
14	R2	105	13.0	0.208	7.5	LOS A	0.8	21.8	0.64	0.64	29.1
Approach		147	13.0	0.208	7.5	LOS A	0.8	21.8	0.64	0.64	29.5
West: SR 120/108											
5	L2	21	13.0	0.019	3.5	LOS A	0.1	2.2	0.41	0.23	29.5
2	T1	274	13.0	0.272	5.8	LOS A	1.2	34.4	0.45	0.33	31.7
12	R2	32	13.0	0.272	5.8	LOS A	1.2	34.4	0.45	0.33	30.3
Approach		326	13.0	0.272	5.6	LOS A	1.2	34.4	0.45	0.32	31.4
All Vehicles		1421	13.0	0.290	4.9	LOS A	1.4	40.0	0.27	0.18	30.9

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR 120/108 - Alt 2A PM_2022

29. NCC & SR120/108
Alt 2A - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	32	10.0	0.074	4.9	LOS A	0.3	7.5	0.55	0.46	31.4
8	T1	32	10.0	0.074	4.9	LOS A	0.3	7.5	0.55	0.46	27.2
18	R2	242	10.0	0.159	0.0	LOS A	0.0	0.0	0.00	0.00	30.6
Approach		305	10.0	0.159	1.0	LOS A	0.3	7.5	0.11	0.09	30.3
East: SR 120/108											
1	L2	179	10.0	0.285	6.1	LOS A	1.4	37.3	0.39	0.26	30.8
6	T1	432	10.0	0.285	6.1	LOS A	1.4	37.3	0.39	0.26	31.1
16	R2	11	10.0	0.285	6.1	LOS A	1.4	37.3	0.39	0.26	28.5
Approach		621	10.0	0.285	6.1	LOS A	1.4	37.3	0.39	0.26	30.9
North: NCC											
7	L2	21	10.0	0.093	5.5	LOS A	0.4	9.5	0.58	0.52	31.7
4	T1	21	10.0	0.093	5.5	LOS A	0.4	9.5	0.58	0.52	30.9
14	R2	32	10.0	0.093	5.5	LOS A	0.4	9.5	0.58	0.52	29.6
Approach		74	10.0	0.093	5.5	LOS A	0.4	9.5	0.58	0.52	30.5
West: SR 120/108											
5	L2	105	10.0	0.090	3.8	LOS A	0.4	11.0	0.40	0.24	29.4
2	T1	432	10.0	0.369	6.6	LOS A	2.0	52.7	0.46	0.33	31.3
12	R2	11	10.0	0.369	6.6	LOS A	2.0	52.7	0.46	0.33	30.0
Approach		547	10.0	0.369	6.1	LOS A	2.0	52.7	0.45	0.31	30.9
All Vehicles		1547	10.0	0.369	5.0	LOS A	2.0	52.7	0.37	0.26	30.8

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 40. NCC & Minor Rd - Alt 2B AM_2022

40. NCC & Minor Road
Alt 2B - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Minor Road											
3	L2	11	13.0	0.026	3.2	LOS A	0.1	2.8	0.31	0.16	32.1
8	T1	11	13.0	0.026	3.2	LOS A	0.1	2.8	0.31	0.16	27.9
18	R2	11	13.0	0.026	3.2	LOS A	0.1	2.8	0.31	0.16	30.2
Approach		32	13.0	0.026	3.2	LOS A	0.1	2.8	0.31	0.16	30.0
East: NCC											
1	L2	11	13.0	0.078	3.2	LOS A	0.4	10.0	0.14	0.04	31.6
6	T1	200	13.0	0.078	3.2	LOS A	0.4	10.0	0.12	0.03	32.4
16	R2	11	13.0	0.078	3.2	LOS A	0.3	7.0	0.10	0.03	29.4
Approach		221	13.0	0.078	3.2	LOS A	0.4	10.0	0.12	0.03	32.2
North: Minor Road											
7	L2	11	13.0	0.026	3.2	LOS A	0.1	2.2	0.28	0.15	32.1
4	T1	11	13.0	0.026	3.2	LOS A	0.1	2.2	0.28	0.15	27.9
14	R2	11	13.0	0.026	3.2	LOS A	0.1	2.2	0.28	0.15	30.2
Approach		32	13.0	0.026	3.2	LOS A	0.1	2.2	0.28	0.15	30.0
West: NCC											
5	L2	11	13.0	0.064	3.1	LOS A	0.3	8.0	0.13	0.04	31.6
2	T1	158	13.0	0.064	3.0	LOS A	0.3	8.0	0.11	0.03	32.4
12	R2	11	13.0	0.064	3.0	LOS A	0.2	5.6	0.09	0.03	29.5
Approach		179	13.0	0.064	3.0	LOS A	0.3	8.0	0.11	0.03	32.2
All Vehicles		463	13.0	0.078	3.1	LOS A	0.4	10.0	0.14	0.05	31.9

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 40. NCC & Minor Rd - Alt 2B PM_2022

40. NCC & Minor Road
Alt 2B - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Minor Road											
3	L2	11	10.0	0.029	3.5	LOS A	0.1	3.0	0.41	0.26	32.0
8	T1	11	10.0	0.029	3.5	LOS A	0.1	3.0	0.41	0.26	27.8
18	R2	11	10.0	0.029	3.5	LOS A	0.1	3.0	0.41	0.26	30.1
Approach		32	10.0	0.029	3.5	LOS A	0.1	3.0	0.41	0.26	29.9
East: NCC											
1	L2	11	10.0	0.088	3.2	LOS A	0.4	11.3	0.14	0.04	31.6
6	T1	232	10.0	0.088	3.2	LOS A	0.4	11.3	0.13	0.04	32.4
16	R2	11	10.0	0.088	3.2	LOS A	0.4	10.2	0.12	0.04	29.5
Approach		253	10.0	0.088	3.2	LOS A	0.4	11.3	0.13	0.04	32.3
North: Minor Road											
7	L2	11	10.0	0.027	3.3	LOS A	0.1	2.9	0.37	0.21	32.1
4	T1	11	10.0	0.027	3.3	LOS A	0.1	2.9	0.37	0.21	27.9
14	R2	11	10.0	0.027	3.3	LOS A	0.1	2.9	0.37	0.21	30.1
Approach		32	10.0	0.027	3.3	LOS A	0.1	2.9	0.37	0.21	29.9
West: NCC											
5	L2	11	10.0	0.109	3.4	LOS A	0.5	14.4	0.14	0.04	31.6
2	T1	295	10.0	0.109	3.3	LOS A	0.5	14.4	0.13	0.04	32.4
12	R2	11	10.0	0.109	3.3	LOS A	0.5	13.0	0.12	0.04	29.4
Approach		316	10.0	0.109	3.3	LOS A	0.5	14.4	0.13	0.04	32.3
All Vehicles		632	10.0	0.109	3.3	LOS A	0.5	14.4	0.16	0.06	32.0

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR120/108- Alt 2B AM_2022

29. NCC & SR 120/108
Alt 2B - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	21	13.0	0.018	3.2	LOS A	0.1	1.9	0.33	0.17	30.4
18	R2	158	13.0	0.107	0.0	LOS A	0.0	0.0	0.00	0.00	30.4
Approach		179	13.0	0.107	0.4	LOS A	0.1	1.9	0.04	0.02	30.4
East: SR 120/108											
1	L2	147	13.0	0.136	4.0	LOS A	0.6	16.0	0.11	0.03	30.4
6	T1	189	13.0	0.136	4.0	LOS A	0.6	16.0	0.11	0.03	31.9
Approach		337	13.0	0.136	4.0	LOS A	0.6	16.0	0.11	0.03	31.2
West: SR 120/108											
5u	U	1	13.0	0.001	2.9	LOS A	0.0	0.1	0.30	0.10	30.8
2	T1	200	13.0	0.219	4.8	LOS A	1.0	27.6	0.33	0.19	31.7
12	R2	74	13.0	0.219	4.8	LOS A	1.0	27.6	0.33	0.19	30.4
Approach		275	13.0	0.219	4.8	LOS A	1.0	27.6	0.33	0.19	31.4
All Vehicles		791	13.0	0.219	3.5	LOS A	1.0	27.6	0.17	0.08	31.1

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR120/108- Alt 2B PM_2022

29. NCC & SR 120/108
Alt 2B - PM Peak
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	74	10.0	0.064	3.7	LOS A	0.3	7.0	0.39	0.25	30.2
18	R2	242	10.0	0.159	0.0	LOS A	0.0	0.0	0.00	0.00	30.4
Approach		316	10.0	0.159	0.9	LOS A	0.3	7.0	0.09	0.06	30.4
East: SR 120/108											
1	L2	221	10.0	0.188	4.6	LOS A	0.9	23.2	0.23	0.11	29.9
6	T1	232	10.0	0.188	4.6	LOS A	0.9	23.2	0.23	0.11	31.9
Approach		453	10.0	0.188	4.6	LOS A	0.9	23.2	0.23	0.11	30.9
West: SR 120/108											
5u	U	1	10.0	0.001	3.1	LOS A	0.0	0.1	0.37	0.14	30.7
2	T1	263	10.0	0.246	5.2	LOS A	1.2	31.3	0.41	0.28	31.6
12	R2	32	10.0	0.246	5.2	LOS A	1.2	31.3	0.41	0.28	30.4
Approach		296	10.0	0.246	5.2	LOS A	1.2	31.3	0.41	0.28	31.5
All Vehicles		1064	10.0	0.246	3.7	LOS A	1.2	31.3	0.24	0.14	30.9

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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APPENDIX N:
2022 URBAN STREETS ANALYSIS WORKSHEETS

Arterial Level of Service

9/16/2014

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.5	28.8	134.3	1.03	27.5	B
Total	III		105.5	28.8	134.3	1.03	27.5	B

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.5	48.7	154.2	1.03	24	C
Total	III		105.5	48.7	154.2	1.03	24	C

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	145	46.4	191.4	1.1	20.7	B
Total	IV		145	46.4	191.4	1.1	20.7	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	145	20.7	165.7	1.1	24	B
Total	IV		145	20.7	165.7	1.1	24	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	100.8	10.5	111.3	1.4	45.3	A
Patterson Rd	I	50	10.2	34.2	44.4	0.1	8.3	F
Total	I		111	44.7	155.7	1.5	34.8	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	8.5	18.7	0.1	19.7	E
SR 219 (Kiernan Ave)	I	50	100.8	31.9	132.7	1.4	38	B
Total	I		111	40.4	151.4	1.5	35.7	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claribel Rd	II	42	65.1	23.5	88.6	0.77	31.1	B
Total	II		65.1	23.5	88.6	0.77	31.1	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pelandale Ave	II	42	65.1	31.1	96.2	0.77	28.7	B
Total	II		65.1	31.1	96.2	0.77	28.7	B

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	II	45	46.2	17.1	63.3	0.52	29.8	B
Total	II		46.2	17.1	63.3	0.52	29.8	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	17.7	148.4	1.27	30.8	A
Total	III		130.7	17.7	148.4	1.27	30.8	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	27.7	135.5	0.95	25.3	B
Total	III		107.8	27.7	135.5	0.95	25.3	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	69.2	177	0.95	19.4	C
Total	III		107.8	69.2	177	0.95	19.4	C

Arterial Level of Service: EB SR 219 (Kiernan Ave)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	28.6	69.9	0.63	32.5	C

Tully Rd	I	55	36.3	28.4	64.7	0.5	27.6	C
Total	I		77.6	57	134.6	1.13	30.2	C

Arterial Level of Service: WB SR 219 (Kiernan Ave)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	36.3	25.7	62	0.5	28.8	C
Total	I		36.3	25.7	62	0.5	28.8	C

Arterial Level of Service: EB SR 219 (Kiernan Ave)#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108 (McHenry Ave)	I	55	65.1	23.2	88.3	0.99	40.6	B
Total	I		65.1	23.2	88.3	0.99	40.6	B

Arterial Level of Service: WB SR 219 (Kiernan Ave)#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	65.1	16.6	81.7	0.99	43.8	A
Total	I		65.1	16.6	81.7	0.99	43.8	A

Arterial Level of Service

9/16/2014

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.5	30.5	136	1.03	27.2	B
Total	III		105.5	30.5	136	1.03	27.2	B

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.5	62.8	168.3	1.03	22	C
Total	III		105.5	62.8	168.3	1.03	22	C

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	145.1	47.1	192.2	1.1	20.7	B
Total	IV		145.1	47.1	192.2	1.1	20.7	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	145.1	18.2	163.3	1.1	24.3	B
Total	IV		145.1	18.2	163.3	1.1	24.3	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	II	40	125	9.5	134.5	1.4	37.5	A
Patterson Rd	II	50	10.2	38.6	48.8	0.1	7.6	F
Total	II		135.2	48.1	183.3	1.5	29.5	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	6.2	16.4	0.1	22.5	D
SR 219 (Kiernan Ave)	I	47	106.6	27.6	134.2	1.4	37.6	B
Total	I		116.8	33.8	150.6	1.5	35.9	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claribel Rd	II	42	65.1	23	88.1	0.77	31.3	B
Total	II		65.1	23	88.1	0.77	31.3	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pelandale Ave	II	42	65.1	34.9	100	0.77	27.6	C
Total	II		65.1	34.9	100	0.77	27.6	C

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	II	45	46.2	27.8	74	0.52	25.5	C
Total	II		46.2	27.8	74	0.52	25.5	C

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	135.2	19.2	154.4	1.31	30.7	A
Total	III		135.2	19.2	154.4	1.31	30.7	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	22	129.8	0.95	26.4	B
Total	III		107.8	22	129.8	0.95	26.4	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	70.4	178.2	0.95	19.3	C
Total	III		107.8	70.4	178.2	0.95	19.3	C

Arterial Level of Service: EB SR 219 (Kiernan Ave)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	14.2	55.5	0.63	40.9	B

Tully Rd	I	55	36.3	39.6	75.9	0.5	23.6	D
Total	I		77.6	53.8	131.4	1.13	30.9	C

Arterial Level of Service: WB SR 219 (Kiernan Ave)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	36.3	14.5	50.8	0.5	35.2	B
Total	I		36.3	14.5	50.8	0.5	35.2	B

Arterial Level of Service: EB SR 219 (Kiernan Ave)#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108 (McHenry Ave)	I	55	65.1	25.5	90.6	0.99	39.5	B
Total	I		65.1	25.5	90.6	0.99	39.5	B

Arterial Level of Service: WB SR 219 (Kiernan Ave)#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	65.1	21.3	86.4	0.99	41.4	B
Total	I		65.1	21.3	86.4	0.99	41.4	B

Arterial Level of Service

9/16/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	32.1	73.4	0.63	31	C
Tully Rd	I	55	36.3	19	55.3	0.5	32.3	C
Total	I		77.6	51.1	128.7	1.13	31.5	C

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	13.8	62.7	0.75	43	A
Carver	I	55	36.3	21.7	58	0.5	30.8	C
Total	I		85.2	35.5	120.7	1.24	37.1	B

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	7.1	112.5	1.02	32.8	A
Total	III		105.4	7.1	112.5	1.02	32.8	A

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	34.6	140	1.02	26.3	B
Total	III		105.4	34.6	140	1.02	26.3	B

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	21.9	166.6	1.1	23.8	B
Total	IV		144.7	21.9	166.6	1.1	23.8	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	11	155.7	1.1	25.5	A
Total	IV		144.7	11	155.7	1.1	25.5	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	3.8	25.6	0.22	30.6	C
SR 108	I	50	83.2	10.4	93.6	1.16	44.5	A
Patterson Rd	I	50	10.2	31.5	41.7	0.1	8.8	F
Total	I		115.2	45.7	160.9	1.48	33	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	8.5	18.7	0.1	19.7	E
Charity	I	50	83.2	8.2	91.4	1.16	45.5	A
	I	50	21.8	14.6	36.4	0.22	21.5	D
Total	I		115.2	31.3	146.5	1.48	36.3	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	6.4	50.9	0.48	33.8	B
	II	45	31.1	17	48.1	0.31	23.5	C
Total	II		75.6	23.4	99	0.79	28.8	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	8.2	39.3	0.31	28.8	B
Pelandale Ave	II	42	44.5	30.9	75.4	0.48	22.8	C
Total	II		75.6	39.1	114.7	0.79	24.9	C

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	II	45	46.2	11.6	57.8	0.52	32.7	B
Total	II		46.2	11.6	57.8	0.52	32.7	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	11.5	142.2	1.27	32.2	A
Total	III		130.7	11.5	142.2	1.27	32.2	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	14.4	122.2	0.95	28.1	B
Total	III		107.8	14.4	122.2	0.95	28.1	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	43.7	151.5	0.95	22.7	C
Total	III		107.8	43.7	151.5	0.95	22.7	C

Arterial Level of Service

9/16/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	22.9	64.2	0.63	35.4	B
Tully Rd	I	55	36.3	21.1	57.4	0.5	31.1	C
Total	I		77.6	44	121.6	1.13	33.4	C

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	10.1	59	0.75	45.6	A
Carver	I	55	36.3	17	53.3	0.5	33.5	C
Total	I		85.2	27.1	112.3	1.24	39.9	B

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	8.4	113.8	1.02	32.4	A
Total	III		105.4	8.4	113.8	1.02	32.4	A

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	44.3	149.7	1.02	24.6	B
Total	III		105.4	44.3	149.7	1.02	24.6	B

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	26.3	171	1.1	23.2	B
Total	IV		144.7	26.3	171	1.1	23.2	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	11.8	156.5	1.1	25.4	A
Total	IV		144.7	11.8	156.5	1.1	25.4	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	6.3	28.1	0.22	27.9	C
SR 108	I	50	83.2	8.8	92	1.16	45.2	A
Patterson Rd	I	50	10.2	39.2	49.4	0.1	7.5	F
Total	I		115.2	54.3	169.5	1.48	31.4	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	6.2	16.4	0.1	22.5	D
Charity	I	50	83.2	10.8	94	1.16	44.3	A
	I	50	21.8	16.8	38.6	0.22	20.3	E
Total	I		115.2	33.8	149	1.48	35.7	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	11.9	56.4	0.48	30.5	B
	II	45	31.1	15.1	46.2	0.31	24.5	C
Total	II		75.6	27	102.6	0.79	27.8	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	10.9	42	0.31	27	C
Pelandale Ave	II	42	44.5	25.6	70.1	0.48	24.6	C
Total	II		75.6	36.5	112.1	0.79	25.5	C

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	II	45	46.2	20.7	66.9	0.52	28.2	B
Total	II		46.2	20.7	66.9	0.52	28.2	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	16.4	147.1	1.27	31.1	A
Total	III		130.7	16.4	147.1	1.27	31.1	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	12.4	120.2	0.95	28.6	B
Total	III		107.8	12.4	120.2	0.95	28.6	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	45.3	153.1	0.95	22.4	C
Total	III		107.8	45.3	153.1	0.95	22.4	C

Arterial Level of Service

9/16/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	34.4	75.7	0.63	30	C
Tully Rd	I	55	36.3	19	55.3	0.5	32.3	C
Total	I		77.6	53.4	131	1.13	31	C

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	13.8	62.7	0.75	43	A
Carver	I	55	36.3	23	59.3	0.5	30.1	C
Total	I		85.2	36.8	122	1.24	36.7	B

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	8.1	113.5	1.02	32.5	A
Total	III		105.4	8.1	113.5	1.02	32.5	A

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	36.1	141.5	1.02	26.1	B
Total	III		105.4	36.1	141.5	1.02	26.1	B

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	32.9	177.6	1.1	22.4	B
Total	IV		144.7	32.9	177.6	1.1	22.4	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	11.3	156	1.1	25.5	A
Total	IV		144.7	11.3	156	1.1	25.5	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	3.8	25.6	0.22	30.6	C
SR 108	I	50	83.2	10.4	93.6	1.16	44.5	A
Patterson Rd	I	50	10.2	31.5	41.7	0.1	8.8	F
Total	I		115.2	45.7	160.9	1.48	33	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	8.5	18.7	0.1	19.7	E
Charity	I	50	83.2	8.2	91.4	1.16	45.5	A
	I	50	21.8	14.6	36.4	0.22	21.5	D
Total	I		115.2	31.3	146.5	1.48	36.3	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	6.4	50.9	0.48	33.8	B
	II	45	31.1	17	48.1	0.31	23.5	C
Total	II		75.6	23.4	99	0.79	28.8	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	8.2	39.3	0.31	28.8	B
Pelandale Ave	II	42	44.5	30.9	75.4	0.48	22.8	C
Total	II		75.6	39.1	114.7	0.79	24.9	C

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	II	45	46.2	11.4	57.6	0.52	32.8	B
Total	II		46.2	11.4	57.6	0.52	32.8	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	11.2	141.9	1.27	32.2	A
Total	III		130.7	11.2	141.9	1.27	32.2	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	18.5	126.3	0.95	27.2	B
Total	III		107.8	18.5	126.3	0.95	27.2	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	54.1	161.9	0.95	21.2	C
Total	III		107.8	54.1	161.9	0.95	21.2	C

Arterial Level of Service

9/16/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	22.9	64.2	0.63	35.4	B
Tully Rd	I	55	36.3	21.1	57.4	0.5	31.1	C
Total	I		77.6	44	121.6	1.13	33.4	C

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	10.1	59	0.75	45.6	A
Carver	I	55	36.3	17	53.3	0.5	33.5	C
Total	I		85.2	27.1	112.3	1.24	39.9	B

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	10.5	115.9	1.02	31.8	A
Total	III		105.4	10.5	115.9	1.02	31.8	A

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	43.8	149.2	1.02	24.7	B
Total	III		105.4	43.8	149.2	1.02	24.7	B

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	31.9	176.6	1.1	22.5	B
Total	IV		144.7	31.9	176.6	1.1	22.5	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	12.9	157.6	1.1	25.2	A
Total	IV		144.7	12.9	157.6	1.1	25.2	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	6.3	28.1	0.22	27.9	C
SR 108	I	50	83.2	8.8	92	1.16	45.2	A
Patterson Rd	I	50	10.2	39.2	49.4	0.1	7.5	F
Total	I		115.2	54.3	169.5	1.48	31.4	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	6.2	16.4	0.1	22.5	D
Charity	I	50	83.2	10.8	94	1.16	44.3	A
	I	50	21.8	17.4	39.2	0.22	20	E
Total	I		115.2	34.4	149.6	1.48	35.5	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	11.9	56.4	0.48	30.5	B
	II	45	31.1	15.6	46.7	0.31	24.3	C
Total	II		75.6	27.5	103.1	0.79	27.7	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	10.9	42	0.31	27	C
Pelandale Ave	II	42	44.5	25.6	70.1	0.48	24.6	C
Total	II		75.6	36.5	112.1	0.79	25.5	C

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	II	45	46.2	23	69.2	0.52	27.3	C
Total	II		46.2	23	69.2	0.52	27.3	C

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	17.8	148.5	1.27	30.8	A
Total	III		130.7	17.8	148.5	1.27	30.8	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	19.6	127.4	0.95	27	B
Total	III		107.8	19.6	127.4	0.95	27	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	50.5	158.3	0.95	21.7	C
Total	III		107.8	50.5	158.3	0.95	21.7	C

Arterial Level of Service

9/16/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	30.7	72	0.63	31.6	C
Tully Rd	I	55	36.3	18.8	55.1	0.5	32.4	C
Total	I		77.6	49.5	127.1	1.13	31.9	C

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	14.1	63	0.75	42.7	A
Carver	I	55	36.3	21.2	57.5	0.5	31.1	C
Total	I		85.2	35.3	120.5	1.24	37.2	B

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	10.4	115.8	1.02	31.9	A
Total	III		105.4	10.4	115.8	1.02	31.9	A

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	40.6	146	1.02	25.3	B
Total	III		105.4	40.6	146	1.02	25.3	B

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	31	175.7	1.1	22.6	B
Total	IV		144.7	31	175.7	1.1	22.6	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	9	153.7	1.1	25.8	A
Total	IV		144.7	9	153.7	1.1	25.8	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	4.7	26.5	0.22	29.6	C
SR 108	I	50	83.2	9.9	93.1	1.16	44.7	A
Patterson Rd	I	50	10.2	33.1	43.3	0.1	8.5	F
Total	I		115.2	47.7	162.9	1.48	32.6	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	8.1	18.3	0.1	20.2	E
Charity	I	50	83.2	4.8	88	1.16	47.3	A
	I	50	21.8	14.3	36.1	0.22	21.7	D
Total	I		115.2	27.2	142.4	1.48	37.3	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	6.6	51.1	0.48	33.7	B
	II	45	31.1	17.3	48.4	0.31	23.4	C
Total	II		75.6	23.9	99.5	0.79	28.7	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	8.3	39.4	0.31	28.7	B
Pelandale Ave	II	42	44.5	31.6	76.1	0.48	22.6	C
Total	II		75.6	39.9	115.5	0.79	24.7	C

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	II	45	46.2	13.2	59.4	0.52	31.8	B
Total	II		46.2	13.2	59.4	0.52	31.8	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	13.1	143.8	1.27	31.8	A
Total	III		130.7	13.1	143.8	1.27	31.8	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	16.3	124.1	0.95	27.7	B
Total	III		107.8	16.3	124.1	0.95	27.7	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	39	146.8	0.95	23.4	C
Total	III		107.8	39	146.8	0.95	23.4	C

Arterial Level of Service

9/16/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	21.3	62.6	0.63	36.3	B
Tully Rd	I	55	36.3	21.5	57.8	0.5	30.9	C
Total	I		77.6	42.8	120.4	1.13	33.7	C

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	10.5	59.4	0.75	45.3	A
Carver	I	55	36.3	17.1	53.4	0.5	33.5	C
Total	I		85.2	27.6	112.8	1.24	39.7	B

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	19.4	124.8	1.02	29.6	B
Total	III		105.4	19.4	124.8	1.02	29.6	B

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	49.7	155.1	1.02	23.8	C
Total	III		105.4	49.7	155.1	1.02	23.8	C

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	29.8	174.5	1.1	22.8	B
Total	IV		144.7	29.8	174.5	1.1	22.8	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	11.7	156.4	1.1	25.4	A
Total	IV		144.7	11.7	156.4	1.1	25.4	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	6.2	28	0.22	28	C
SR 108	I	50	83.2	8.6	91.8	1.16	45.3	A
Patterson Rd	I	50	10.2	37.4	47.6	0.1	7.7	F
Total	I		115.2	52.2	167.4	1.48	31.7	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	5.7	15.9	0.1	23.2	D
Charity	I	50	83.2	10.8	94	1.16	44.3	A
	I	50	21.8	17.7	39.5	0.22	19.9	E
Total	I		115.2	34.2	149.4	1.48	35.6	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	12.8	57.3	0.48	30.1	B
	II	45	31.1	14.3	45.4	0.31	24.9	C
Total	II		75.6	27.1	102.7	0.79	27.8	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	12.4	43.5	0.31	26	C
Pelandale Ave	II	42	44.5	26.3	70.8	0.48	24.3	C
Total	II		75.6	38.7	114.3	0.79	25	C

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	II	45	46.2	29.3	75.5	0.52	25	C
Total	II		46.2	29.3	75.5	0.52	25	C

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	20.2	150.9	1.27	30.3	A
Total	III		130.7	20.2	150.9	1.27	30.3	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	15.5	123.3	0.95	27.8	B
Total	III		107.8	15.5	123.3	0.95	27.8	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	46.2	154	0.95	22.3	C
Total	III		107.8	46.2	154	0.95	22.3	C

Arterial Level of Service

9/16/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	30.7	72	0.63	31.6	C
Tully Rd	I	55	36.3	18.8	55.1	0.5	32.4	C
Total	I		77.6	49.5	127.1	1.13	31.9	C

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	14.1	63	0.75	42.7	A
Carver	I	55	36.3	21.2	57.5	0.5	31.1	C
Total	I		85.2	35.3	120.5	1.24	37.2	B

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	10.5	115.9	1.02	31.8	A
Total	III		105.4	10.5	115.9	1.02	31.8	A

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	44.5	149.9	1.02	24.6	B
Total	III		105.4	44.5	149.9	1.02	24.6	B

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	40.4	185.1	1.1	21.4	B
Total	IV		144.7	40.4	185.1	1.1	21.4	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	9.3	154	1.1	25.8	A
Total	IV		144.7	9.3	154	1.1	25.8	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	3.8	25.6	0.22	30.6	C
SR 108	I	50	83.2	9.7	92.9	1.16	44.8	A
Patterson Rd	I	50	10.2	32.8	43	0.1	8.6	F
Total	I		115.2	46.3	161.5	1.48	32.9	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	8	18.2	0.1	20.3	E
Charity	I	50	83.2	8.2	91.4	1.16	45.5	A
	I	50	21.8	14.3	36.1	0.22	21.7	D
Total	I		115.2	30.5	145.7	1.48	36.5	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	6.6	51.1	0.48	33.7	B
	II	45	31.1	17.2	48.3	0.31	23.4	C
Total	II		75.6	23.8	99.4	0.79	28.7	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	8.3	39.4	0.31	28.7	B
Pelandale Ave	II	42	44.5	29	73.5	0.48	23.4	C
Total	II		75.6	37.3	112.9	0.79	25.3	C

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	II	45	46.2	13.2	59.4	0.52	31.8	B
Total	II		46.2	13.2	59.4	0.52	31.8	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	12.3	143	1.27	32	A
Total	III		130.7	12.3	143	1.27	32	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	23.6	131.4	0.95	26.1	B
Total	III		107.8	23.6	131.4	0.95	26.1	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	37.1	144.9	0.95	23.7	C
Total	III		107.8	37.1	144.9	0.95	23.7	C

Arterial Level of Service

9/16/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	21.3	62.6	0.63	36.3	B
Tully Rd	I	55	36.3	21.5	57.8	0.5	30.9	C
Total	I		77.6	42.8	120.4	1.13	33.7	C

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	10.5	59.4	0.75	45.3	A
Carver	I	55	36.3	17.1	53.4	0.5	33.5	C
Total	I		85.2	27.6	112.8	1.24	39.7	B

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	20.4	125.8	1.02	29.3	B
Total	III		105.4	20.4	125.8	1.02	29.3	B

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	50.5	155.9	1.02	23.7	C
Total	III		105.4	50.5	155.9	1.02	23.7	C

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	41.4	186.1	1.1	21.3	B
Total	IV		144.7	41.4	186.1	1.1	21.3	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	12.8	157.5	1.1	25.2	A
Total	IV		144.7	12.8	157.5	1.1	25.2	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	6.2	28	0.22	28	C
SR 108	I	50	83.2	8.6	91.8	1.16	45.3	A
Patterson Rd	I	50	10.2	37.4	47.6	0.1	7.7	F
Total	I		115.2	52.2	167.4	1.48	31.7	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	5.7	15.9	0.1	23.2	D
Charity	I	50	83.2	10.8	94	1.16	44.3	A
	I	50	21.8	17.7	39.5	0.22	19.9	E
Total	I		115.2	34.2	149.4	1.48	35.6	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	12.8	57.3	0.48	30.1	B
	II	45	31.1	14.3	45.4	0.31	24.9	C
Total	II		75.6	27.1	102.7	0.79	27.8	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	12.4	43.5	0.31	26	C
Pelandale Ave	II	42	44.5	26.4	70.9	0.48	24.3	C
Total	II		75.6	38.8	114.4	0.79	25	C

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	II	45	46.2	30	76.2	0.52	24.8	C
Total	II		46.2	30	76.2	0.52	24.8	C

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	20.6	151.3	1.27	30.2	A
Total	III		130.7	20.6	151.3	1.27	30.2	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	15.5	123.3	0.95	27.8	B
Total	III		107.8	15.5	123.3	0.95	27.8	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	44	151.8	0.95	22.6	C
Total	III		107.8	44	151.8	0.95	22.6	C

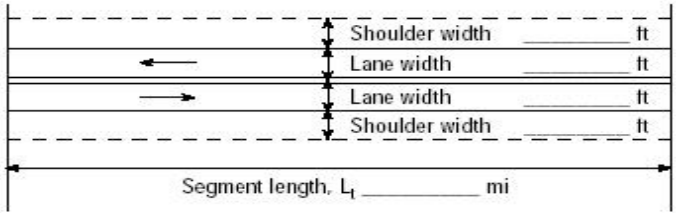
APPENDIX N:
2022 URBAN STREETS ANALYSIS WORKSHEETS

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	6/9/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *110*veh/h

Opposing direction vol., V_o *410*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*125*	*466*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.1 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*46.4 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*125*	*466*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*18.7*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*39.0*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*26.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.16*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1661*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*87.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*123.6*
Effective width, Wv (Eq. 15-29) ft	*32.10*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.96*
Bicycle level of service (Exhibit 15-4)	*C*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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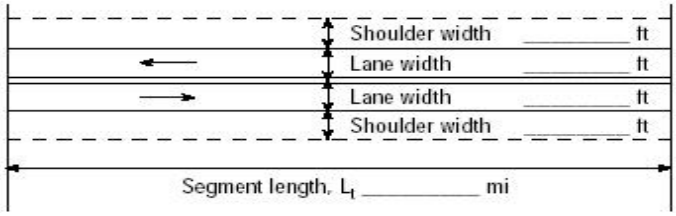
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *150*veh/h

Opposing direction vol., V_o *470*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*171*	*535*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.8 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*45.7 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*171*	*534*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*24.2*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*35.2*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*32.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.18*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1661*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*86.3*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*168.5*
Effective width, Wv (Eq. 15-29) ft	*28.50*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.21*
Bicycle level of service (Exhibit 15-4)	*D*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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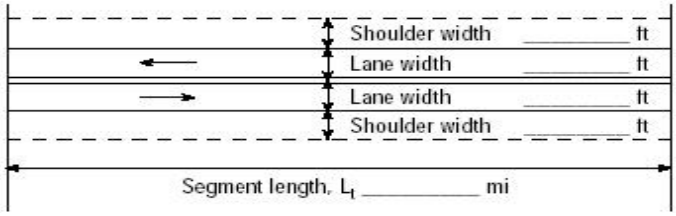
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *400*veh/h

Opposing direction vol., V_o *650*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*455*	*739*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.2 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*42.6 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*455*	*739*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*51.2*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*29.0*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*62.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.27*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*80.3*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*449.4*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.89*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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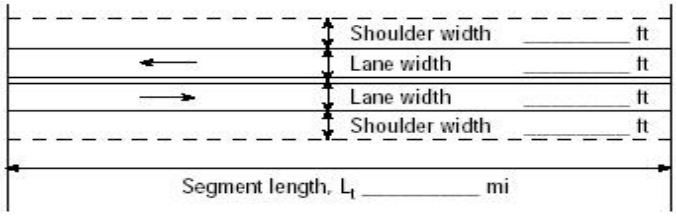
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *430*veh/h

Opposing direction vol., V_o *700*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*489*	*796*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.0 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*42.0 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*489*	*796*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*54.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*27.0*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*64.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.29*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*79.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*483.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.93*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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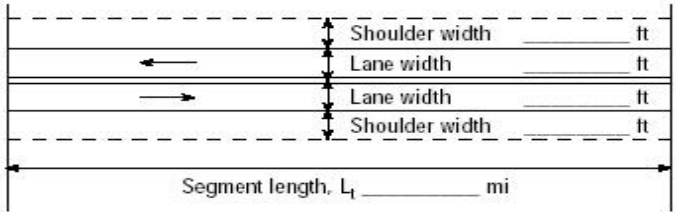
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	6/09/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.89

No-passing zone 60%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 8/mi

Analysis direction vol., V_d 600veh/h

Opposing direction vol., V_o 860veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.7

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	682	978

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.8 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	53.0 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	39.3 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	682	978
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	66.5	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	21.4	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	75.3	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.36

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*74.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*674.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.09*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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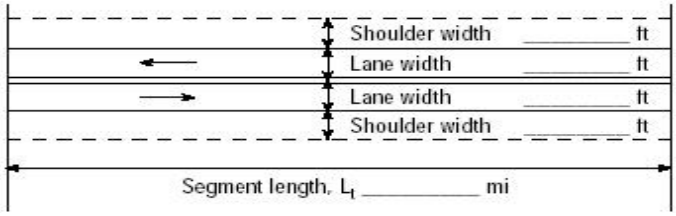
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	6/9/14	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *40%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *450*veh/h

Opposing direction vol., V_o *490*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *1.2*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*512*	*557*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.3 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*43.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*34.4 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*512*	*557*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*53.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*32.0*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*68.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.23*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*79.9*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*505.6*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.95*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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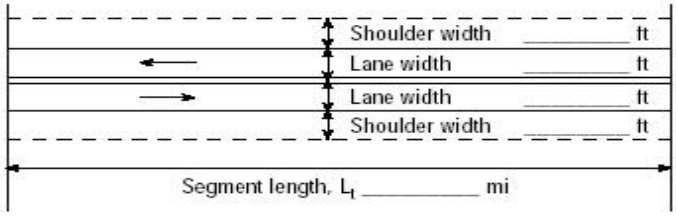
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	6/9/20114	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *40%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *500*veh/h

Opposing direction vol., V_o *590*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *1.2*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*569*	*671*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.3 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*43.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*33.1 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*569*	*671*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*57.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*26.9*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*69.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.26*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*76.9*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*561.8*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.00*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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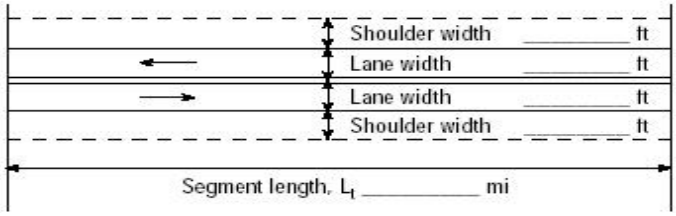
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.89

No-passing zone 40%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 8/mi

Analysis direction vol., V_d 400veh/h

Opposing direction vol., V_o 360veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 1.2

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	455	409

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	45.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.5 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	43.0 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	35.8 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	455	409
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	46.1	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	36.9	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	65.5	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.18

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1641*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*83.3*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*449.4*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.89*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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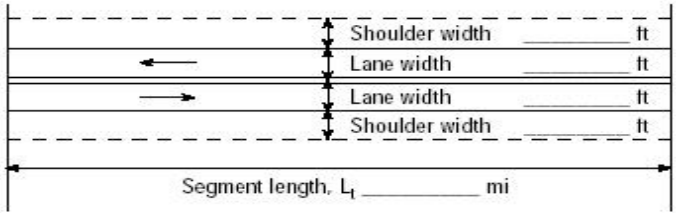
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.89

No-passing zone 40%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 8/mi

Analysis direction vol., V_d 440veh/h

Opposing direction vol., V_o 420veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 1.2

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	500	478

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	45.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.4 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	43.0 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	35.0 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	500	478
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	50.7	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	34.8	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	68.5	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.21

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1661*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*81.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*494.4*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.94*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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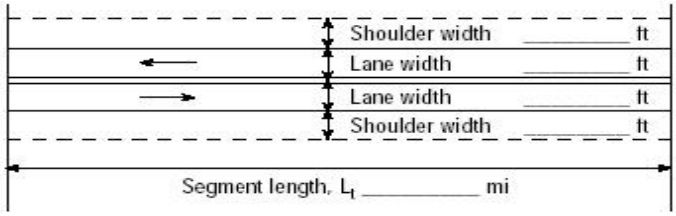
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	6/09/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *40%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *730*veh/h

Opposing direction vol., V_o *790*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *1.2*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*830*	*898*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.3 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*43.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*29.3 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*830*	*898*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*71.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*19.3*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*80.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.36*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*68.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*820.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.19*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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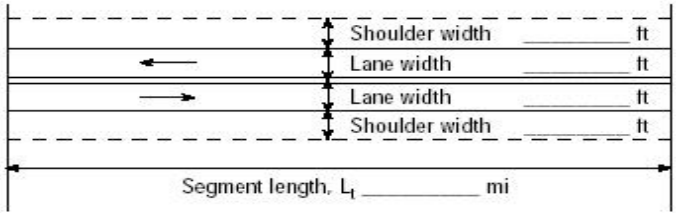
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	6/9/14	Jurisdiction	Caltrans
Analysis Time Period		Analysis Year	2022 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *75%*

% Trucks and Buses , P_T *15 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *610*veh/h

Opposing direction vol., V_o *810*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*696*	*924*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.9 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*34.0 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*696*	*924*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*66.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*23.0*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*76.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.35*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*71.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*685.4*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*7.54*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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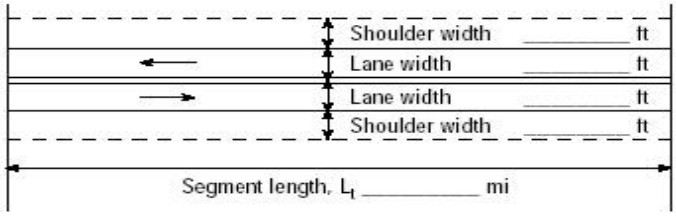
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *75%*

% Trucks and Buses , P_T *15 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *360*veh/h

Opposing direction vol., V_o *510*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*411*	*582*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.7 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*38.1 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*411*	*582*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*46.2*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*35.8*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*61.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.22*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1675*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*80.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*404.5*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*7.27*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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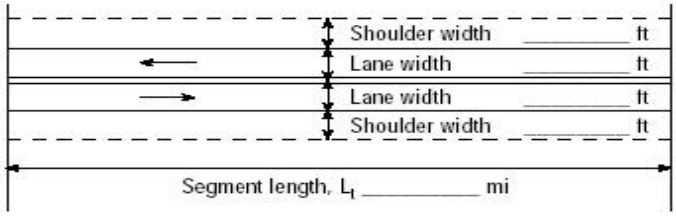
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *75%*

% Trucks and Buses , P_T *15 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *610*veh/h

Opposing direction vol., V_o *810*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*696*	*924*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.9 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*34.0 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*696*	*924*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*66.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*23.0*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*76.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.35*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*71.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*685.4*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*7.54*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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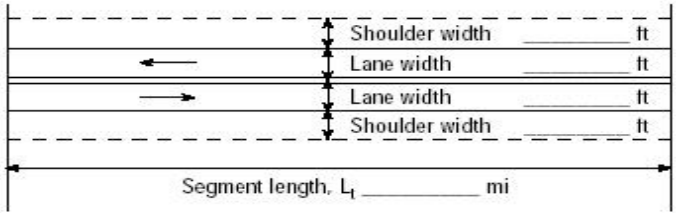
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *75%*

% Trucks and Buses , P_T *15 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *470*veh/h

Opposing direction vol., V_o *570*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*536*	*650*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.5 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*36.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*536*	*650*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*55.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*32.2*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*69.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.25*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1675*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*77.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*528.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*7.40*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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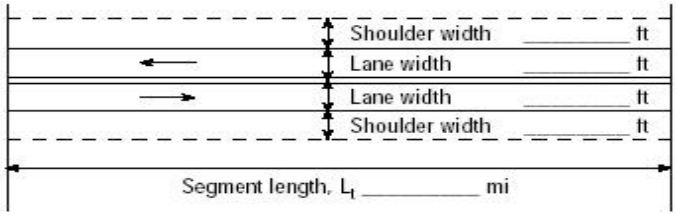
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	6/09/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *75%*

% Trucks and Buses , P_T *15 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *610*veh/h

Opposing direction vol., V_o *810*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*696*	*924*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.9 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*34.0 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*696*	*924*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*66.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*23.0*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*76.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.35*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*71.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*685.4*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*7.54*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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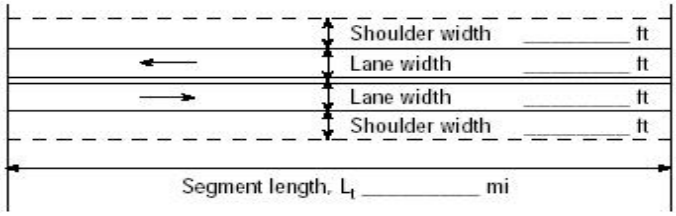
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *50%*

% Trucks and Buses , P_T *10 %*

% Recreational vehicles, P_R *0%*

Access points *mi* 7/mi

Analysis direction vol., V_d *210*veh/h

Opposing direction vol., V_o *710*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.0*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*238*	*806*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*1.8 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.8 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.3 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*44.3 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*238*	*806*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*34.9*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*22.7*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*40.1*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.27*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1683*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*83.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*236.0*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.71*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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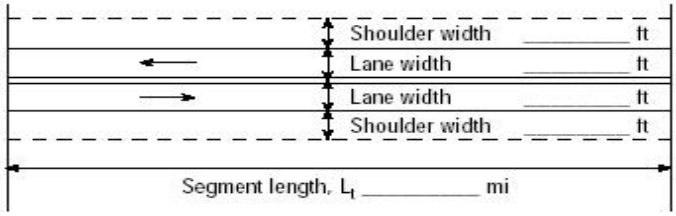
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.89

No-passing zone 50%

% Trucks and Buses , P_T 10 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 220veh/h

Opposing direction vol., V_o 720veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.990	0.990
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	250	817

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.8 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.3 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	44.1 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.990	0.990
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	250	817
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	36.1	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	22.6	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	41.4	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	D
Volume to capacity ratio, *v/c*	0.27

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1683*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*82.9*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*247.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.73*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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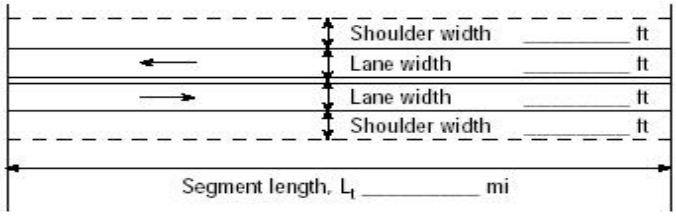
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.89

No-passing zone 50%

% Trucks and Buses , P_T 10 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 370veh/h

Opposing direction vol., V_o 790veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.990	0.990
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	420	897

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.8 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.3 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	42.3 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.990	0.990
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	420	897
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	50.9	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	21.7	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	57.8	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	D
Volume to capacity ratio, *v/c*	0.31

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*79.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*415.7*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.00*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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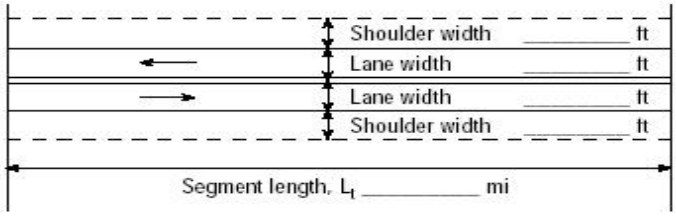
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.89

No-passing zone 50%

% Trucks and Buses , P_T 10 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 380veh/h

Opposing direction vol., V_o 790veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.990	0.990
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	431	897

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.8 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.3 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	42.2 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.990	0.990
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	431	897
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	51.6	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	21.8	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	58.7	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	D
Volume to capacity ratio, *v/c*	0.31

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*79.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*427.0*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.01*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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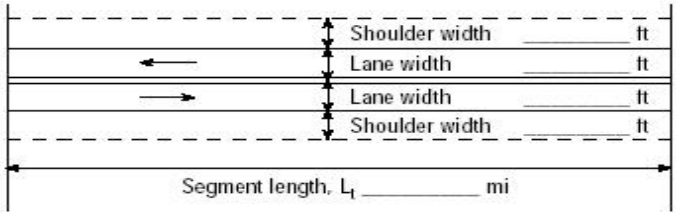
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	6/09/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *50%*

% Trucks and Buses , P_T *10 %*

% Recreational vehicles, P_R *0%*

Access points *mi* 7/mi

Analysis direction vol., V_d *460*veh/h

Opposing direction vol., V_o *780*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.0*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*522*	*885*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*1.8 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.8 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.3 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*41.6 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*522*	*885*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*57.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*22.4*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*65.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.32*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*78.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*516.9*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.11*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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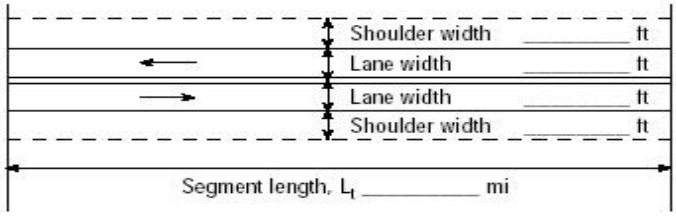
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	6/9/14	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *20%*

% Trucks and Buses , P_T *18 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *2*/mi

Analysis direction vol., V_d *320*veh/h

Opposing direction vol., V_o *330*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*366*	*378*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.3 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*54.5 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*47.4 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*366*	*377*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*39.7*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*34.7*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*56.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.16*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1613*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1670*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*87.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*359.6*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*8.83*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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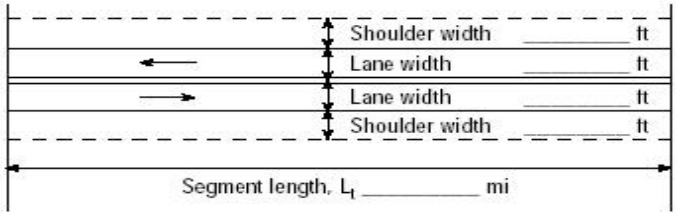
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *75%*

% Trucks and Buses , P_T *15 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *360*veh/h

Opposing direction vol., V_o *510*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*411*	*582*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.7 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*38.1 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*411*	*582*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*46.2*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*35.8*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*61.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.22*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1675*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*80.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*404.5*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*7.27*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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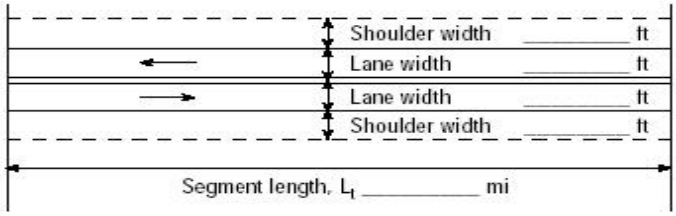
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *20%*

% Trucks and Buses , P_T *18 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *2*/mi

Analysis direction vol., V_d *320*veh/h

Opposing direction vol., V_o *330*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*366*	*378*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*0.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.3 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*54.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*47.4 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*366*	*377*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*39.7*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*34.7*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*56.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.16*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1613*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1670*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*87.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*359.6*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*8.83*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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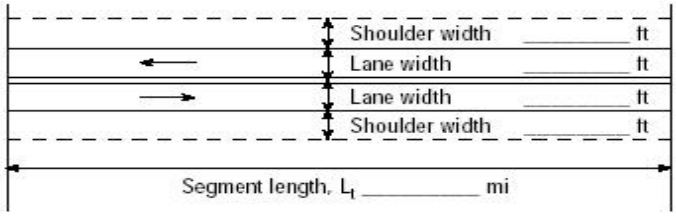
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *20%*

% Trucks and Buses , P_T *18 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *2*/mi

Analysis direction vol., V_d *330*veh/h

Opposing direction vol., V_o *320*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*378*	*366*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*0.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.3 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*54.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*47.4 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*377*	*366*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*40.9*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*34.7*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*58.5*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.16*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1613*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1670*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*87.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*370.8*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*8.84*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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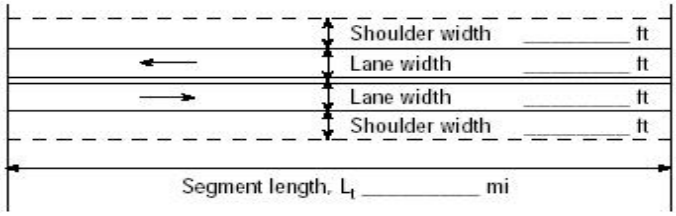
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	6/09/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *20%*

% Trucks and Buses , P_T *18 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *2*/mi

Analysis direction vol., V_d *320*veh/h

Opposing direction vol., V_o *330*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*366*	*378*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*0.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.3 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*54.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*47.4 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*366*	*377*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*39.7*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*34.7*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*56.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.16*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1613*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1670*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*87.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*359.6*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*8.83*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
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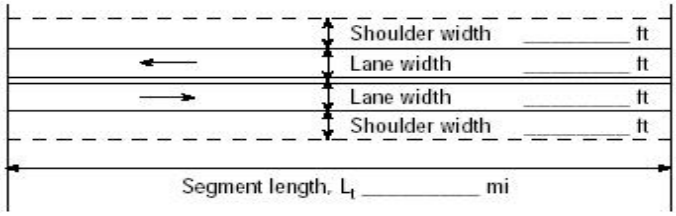
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	6/9/14	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 60%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 8/mi

Analysis direction vol., V_d 510veh/h

Opposing direction vol., V_o 220veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.7

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	543	234

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	3.2 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.0 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	43.7 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	543	234
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	48.0	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	34.6	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	72.2	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	D
Volume to capacity ratio, *v/c*	0.20

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1603*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1680*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*82.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*536.8*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.98*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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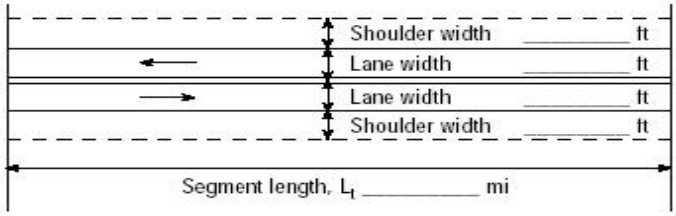
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *590*veh/h

Opposing direction vol., V_o *250*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*629*	*266*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*3.1 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*43.0 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*629*	*266*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*55.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*31.2*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*77.2*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.23*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1622*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1680*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*81.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*621.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.05*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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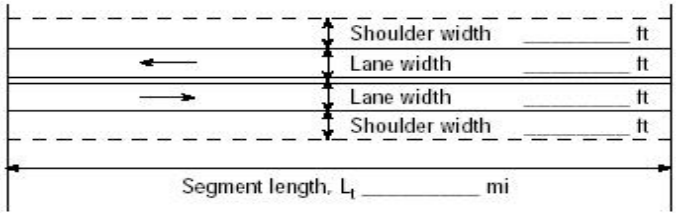
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *760*veh/h

Opposing direction vol., V_o *590*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*810*	*629*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.4 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*40.4 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*810*	*629*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*68.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*25.1*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*82.4*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.31*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*76.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*800.0*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.18*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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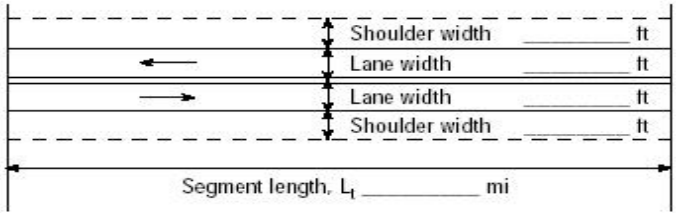
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 60%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 8/mi

Analysis direction vol., V_d 800veh/h

Opposing direction vol., V_o 630veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.7

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	852	671

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.3 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.0 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	39.8 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	852	671
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	69.9	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	23.8	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	83.2	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.33

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*75.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*842.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.21*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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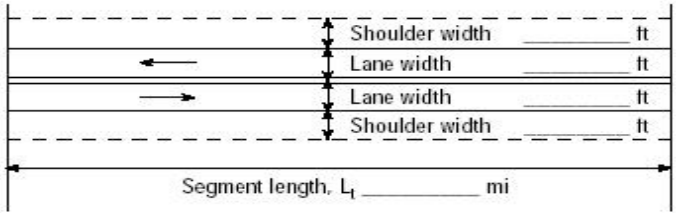
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	6/09/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *830*veh/h

Opposing direction vol., V_o *670*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*884*	*714*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.2 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*39.4 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*884*	*714*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*71.9*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*22.8*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*84.5*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.34*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*74.3*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*873.7*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.23*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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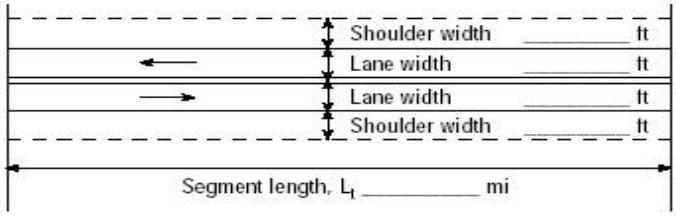
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	6/9/14	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *40%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *640*veh/h

Opposing direction vol., V_o *660*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *1.2*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*682*	*703*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.3 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*43.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*32.0 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*682*	*703*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*63.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*24.1*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*75.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.29*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*74.3*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*673.7*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.09*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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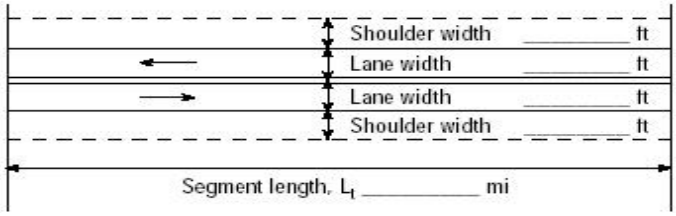
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *40%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *720*veh/h

Opposing direction vol., V_o *710*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *1.2*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*767*	*756*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.3 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*43.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*30.9 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*767*	*756*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*67.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*22.1*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*78.5*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.32*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*71.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*757.9*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.15*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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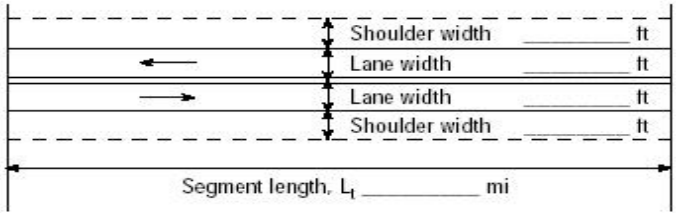
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 40%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 8/mi

Analysis direction vol., V_d 590veh/h

Opposing direction vol., V_o 610veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 1.2

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	629	650

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	45.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.3 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	43.0 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	32.8 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	629	650
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	60.3	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	26.9	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	73.5	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.27

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*76.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*621.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.05*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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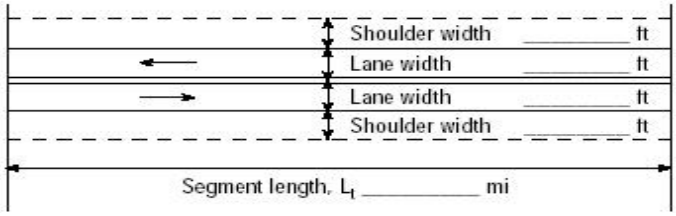
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 40%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 8/mi

Analysis direction vol., V_d 660veh/h

Opposing direction vol., V_o 670veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 1.2

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	703	714

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	45.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.3 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	43.0 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	31.7 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	703	714
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	64.8	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	23.5	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	76.5	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.29

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*73.7*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*694.7*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.11*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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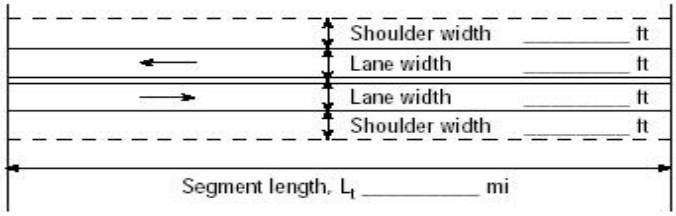
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	6/09/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 40%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 8/mi

Analysis direction vol., V_d 880veh/h

Opposing direction vol., V_o 840veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 1.2

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	938	895

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	45.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.3 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	43.0 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	28.5 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	937	895
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	75.0	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	18.0	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	84.2	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.38

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*66.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*926.3*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.26*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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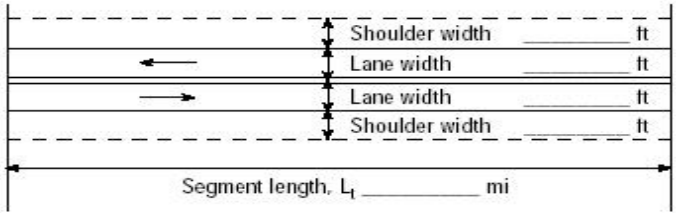
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	6/9/14	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 75%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 10/mi

Analysis direction vol., V_d 940veh/h

Opposing direction vol., V_o 900veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 3.1

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	1001	959

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	50.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	2.5 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.9 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	47.5 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	31.4 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	1001	959
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	77.3	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	18.5	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	86.7	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.41

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*66.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*989.5*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.29*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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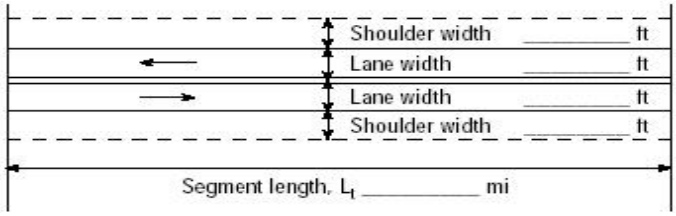
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *75%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *600*veh/h

Opposing direction vol., V_o *580*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*639*	*618*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.6 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*36.2 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*639*	*618*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*60.2*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*31.1*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*76.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.26*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*76.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*631.6*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.06*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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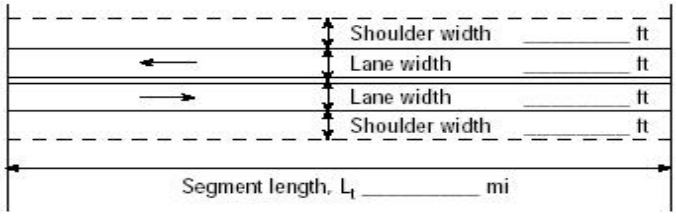
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *75%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *940*veh/h

Opposing direction vol., V_o *900*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*1001*	*959*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.9 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*31.4 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*1001*	*959*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*77.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*18.5*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*86.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.41*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*66.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*989.5*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.29*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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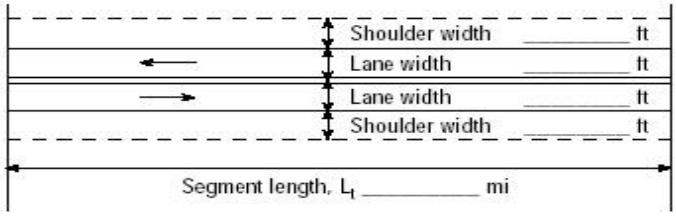
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *75%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *540*veh/h

Opposing direction vol., V_o *540*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*575*	*575*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.7 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*36.9 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*575*	*575*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*56.9*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*34.4*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*74.1*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.24*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*77.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*568.4*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.01*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
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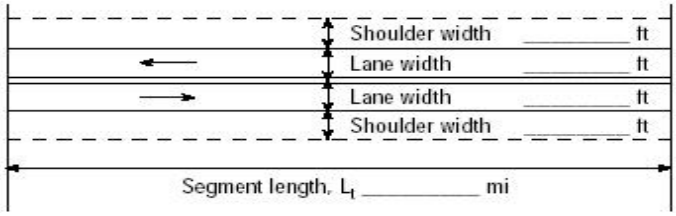
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	6/09/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *75%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *940*veh/h

Opposing direction vol., V_o *900*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*1001*	*959*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.9 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*31.4 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*1001*	*959*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*77.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*18.5*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*86.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.41*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*66.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*989.5*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.29*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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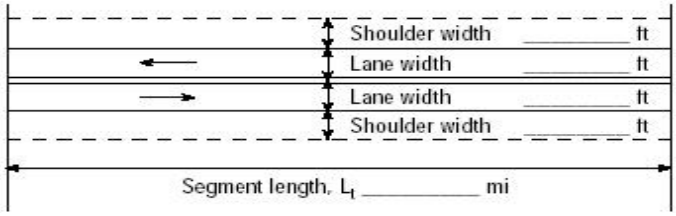
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	6/9/14	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 50%

% Trucks and Buses , P_T 11 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 800veh/h

Opposing direction vol., V_o 490veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.989	0.989
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	851	522

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.6 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.3 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	41.0 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.989	0.989
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	851	521
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	69.4	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	23.4	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	83.9	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.32

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1663*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*77.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*842.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.77*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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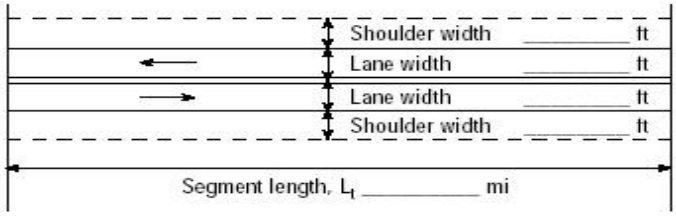
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 50%

% Trucks and Buses , P_T 11 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 820veh/h

Opposing direction vol., V_o 500veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.989	0.989
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	873	532

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.5 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.3 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	40.8 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.989	0.989
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	873	532
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	69.5	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	22.7	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	83.6	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.32

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1663*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*76.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*863.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.78*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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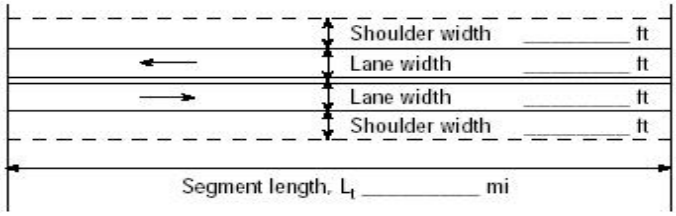
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.89

No-passing zone 50%

% Trucks and Buses , P_T 10 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 370veh/h

Opposing direction vol., V_o 790veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.990	0.990
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	420	897

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.8 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.3 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	42.3 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.990	0.990
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	420	897
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	50.9	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	21.7	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	57.8	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	D
Volume to capacity ratio, *v/c*	0.31

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*79.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*415.7*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.00*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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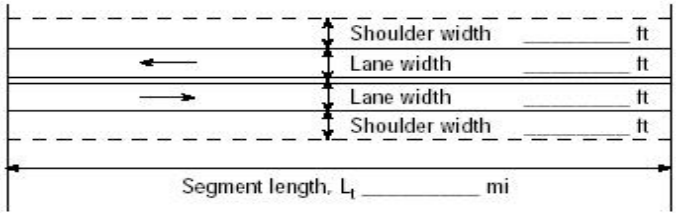
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 50%

% Trucks and Buses , P_T 11 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 850veh/h

Opposing direction vol., V_o 570veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.989	0.989
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	905	607

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.3 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.3 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	40.3 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.989	0.989
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	905	607
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	70.6	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	22.3	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	83.9	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.34

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1681*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*75.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*894.7*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.80*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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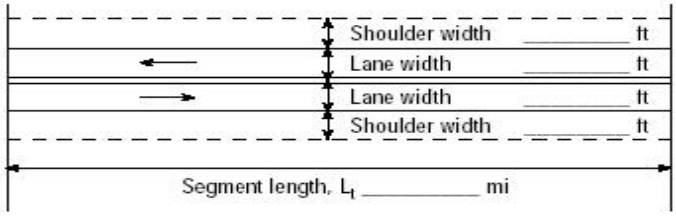
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	6/09/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *50%*

% Trucks and Buses , P_T *11 %*

% Recreational vehicles, P_R *0%*

Access points *mi* 7/mi

Analysis direction vol., V_d *840*veh/h

Opposing direction vol., V_o *580*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.0*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.989*	*0.989*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*894*	*617*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*1.8 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.2 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.3 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*40.3 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.989*	*0.989*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*894*	*617*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*70.8*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*22.4*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*84.1*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.33*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1681*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*75.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*884.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.80*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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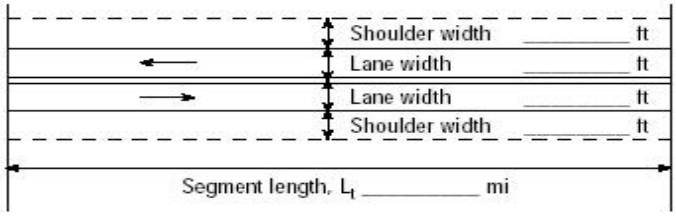
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	6/9/14	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *20%*

% Trucks and Buses , P_T *10 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *2*/mi

Analysis direction vol., V_d *420*veh/h

Opposing direction vol., V_o *390*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*447*	*415*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*0.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.2 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*54.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*46.6 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*447*	*415*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*46.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*31.4*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*62.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.18*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1651*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*85.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*442.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.03*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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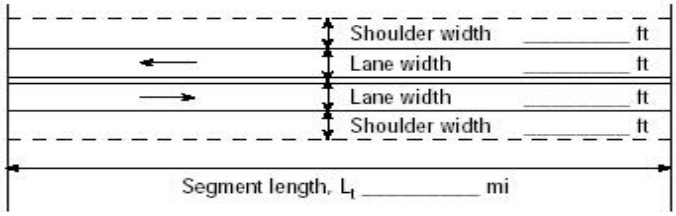
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 75%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 10/mi

Analysis direction vol., V_d 600veh/h

Opposing direction vol., V_o 580veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 3.1

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	639	618

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	50.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	2.5 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.6 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	47.5 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	36.2 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	639	618
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	60.2	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	31.1	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	76.0	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.26

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*76.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*631.6*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.06*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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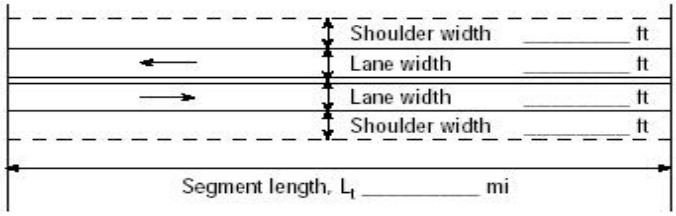
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 20%

% Trucks and Buses , P_T 10 %

% Recreational vehicles, P_R 0%

Access points *mi* 2/mi

Analysis direction vol., V_d 420veh/h

Opposing direction vol., V_o 390veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.5

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.990	0.990
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	447	415

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	0.5 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.2 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	54.5 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	46.6 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.990	0.990
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	447	415
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	46.6	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	31.4	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	62.9	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	C
Volume to capacity ratio, *v/c*	0.18

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1651*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*85.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*442.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.03*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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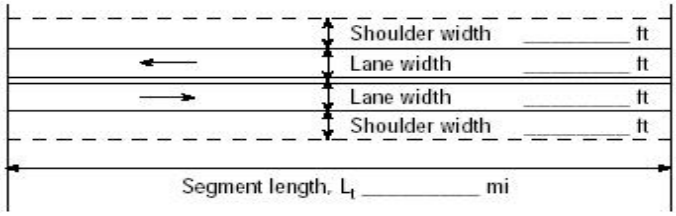
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	6/9/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 20%

% Trucks and Buses , P_T 10 %

% Recreational vehicles, P_R 0%

Access points *mi* 2/mi

Analysis direction vol., V_d 420veh/h

Opposing direction vol., V_o 390veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.5

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.990	0.990
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	447	415

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	0.5 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.2 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	54.5 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	46.6 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.990	0.990
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	447	415
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	46.6	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	31.4	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	62.9	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	C
Volume to capacity ratio, *v/c*	0.18

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1651*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*85.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*442.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.03*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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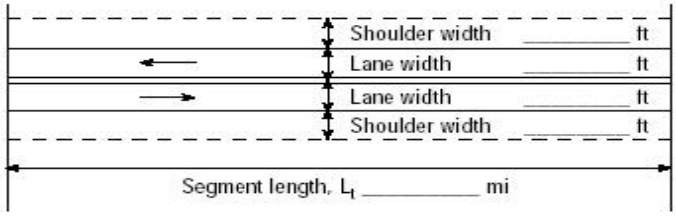
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	6/09/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *20%*

% Trucks and Buses , P_T *10 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *2*/mi

Analysis direction vol., V_d *420*veh/h

Opposing direction vol., V_o *390*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*447*	*415*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*0.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.2 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*54.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*46.6 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*447*	*415*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*46.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*31.4*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*62.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.18*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1651*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*85.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*442.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.03*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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APPENDIX P:
2022 NCC HCM FREEWAY/EXPRESSWAY ANALYSIS WORKSHEETS

BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company		From/To	*Coffee Road/Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 1A*
Project Description			

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*710*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*265*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*4.1*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 510	V_D = veh/h
	Ramp Volume, V_R: 200	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	510	0.95	Level	13	0	0.939	1.00	572
Ramp	200	0.95	Level	13	0	0.939	1.00	224
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 340 pc/h

V_3 or V_{av34} 232 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	796	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	564	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 6.0 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.274 (Exibit 13-11)

S_R= 58.7 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 1A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1680*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs			Calc Speed Adj and FFS		
Lane Width		ft			
Rt-Side Lat. Clearance		ft	f_{LW}		mph
Number of Lanes, N	*2*		f_{LC}		mph
Total Ramp Density, TRD		ramps/mi	TRD Adjustment		mph
FFS (measured)	*65.0*	mph	FFS	*65.0*	mph
Base free-flow Speed, BFFS		mph			

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*942*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	*65.0*	mph	S	mph
D = v_p / S	*14.5*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company		Junction	Oakdale Road Off-Ramp
Date Performed	6/14/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	1500	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	710	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	80	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	710	0.95	Level	13	0	0.939	1.00	796
Ramp	80	0.95	Level	13	0	0.939	1.00	90
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 796 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	796	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	706	Exhibit 13-8	4700	No
V_R	90	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	796	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = -2.4 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.306 (Exhibit 13-12)

S_R= 58.0 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 58.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 630	V_D = veh/h
	Ramp Volume, V_R: 430	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	630	0.95	Level	13	0	0.939	1.00	706
Ramp	430	0.95	Level	13	0	0.939	1.00	482
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 706 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1188	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1188	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 10.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.280 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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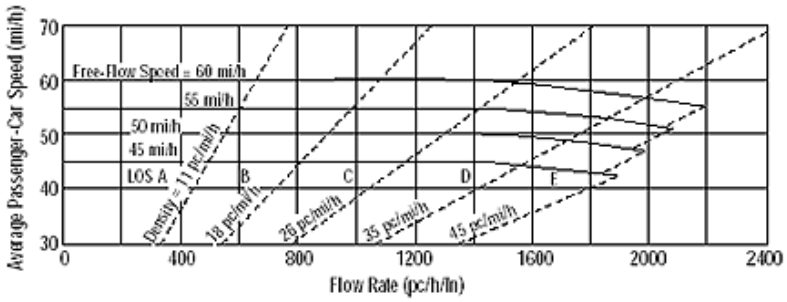
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	
Date Performed	6/13/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1190	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	667
Speed, S (mi/h)	55.0
D (pc/mi/ln)	12.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*626.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.51*
Bicycle level of service (Exhibit 15-4)	*F*

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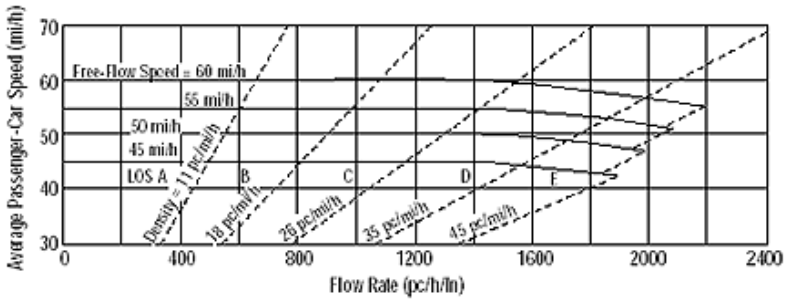
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	
Date Performed	6/13/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1290	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	723
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*678.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.56*
Bicycle level of service (Exhibit 15-4)	*F*

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company		Junction	Roselle Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1060	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	100	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1060	0.95	Level	13	0	0.939	1.00	1188
Ramp	100	0.95	Level	13	0	0.939	1.00	112
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1188 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1188	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1076	Exhibit 13-8	4700	No
V_R	112	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1188	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 13.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.308 (Exhibit 13-12)

S_R= 57.9 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	600
Deceleration Lane Length L_D	
Freeway Volume, V_F	960
Ramp Volume, V_R	230
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	960	0.95	Level	13	0	0.939	1.00	1076
Ramp	230	0.95	Level	13	0	0.939	1.00	258
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1076 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1334	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1334	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 12.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.282 (Exibit 13-11)

S_R= 58.5 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company		From/To	*Oakdale Road/Coffee Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 1A*
Project Description			

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2210*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*826*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*12.7*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Coffee Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	3	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1460	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	320	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1460	0.95	Level	13	0	0.939	1.00	1637
Ramp	320	0.95	Level	13	0	0.939	1.00	359
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.703 using Equation (Exhibit 13-7)

V_{12} = 1257 pc/h

V_3 or V_{av34} 380 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1637	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	1278	Exhibit 13-8	7050	No
V_R	359	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1257	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 13.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.330 (Exhibit 13-12)

S_R= 57.4 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	McHenry Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1200	V_D = veh/h
	Ramp Volume, V_R: 300	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1200	0.95	Level	13	0	0.939	1.00	1345
Ramp	300	0.95	Level	13	0	0.939	1.00	336
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 799 pc/h

V_3 or V_{av34} 546 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1681	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1135	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 10.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.279 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 64.8 mph (Exhibit 13-11)

S = 60.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 1A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1300*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*729*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*11.2*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company		Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1300	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	210	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1300	0.95	Level	13	0	0.939	1.00	1457
Ramp	210	0.95	Level	13	0	0.939	1.00	235
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1457 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1457	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1222	Exhibit 13-8	4700	No
V_R	235	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1457	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 15.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.319 (Exhibit 13-12)

S_R= 57.7 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 1500	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1090	V_D = veh/h
	Ramp Volume, V_R: 370	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1090	0.95	Level	13	0	0.939	1.00	1222
Ramp	370	0.95	Level	13	0	0.939	1.00	415
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1222 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1637	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1637	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 8.6 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.206 (Exibit 13-11)

S_R= 60.3 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 60.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company		Junction	Roselle Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1290	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	190	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1290	0.95	Level	13	0	0.939	1.00	1446
Ramp	190	0.95	Level	13	0	0.939	1.00	213
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1446 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1446	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1233	Exhibit 13-8	4700	No
V_R	213	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1446	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 15.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.317 (Exhibit 13-12)

S_R= 57.7 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1100	V_D = veh/h
	Ramp Volume, V_R: 200	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1100	0.95	Level	13	0	0.939	1.00	1233
Ramp	200	0.95	Level	13	0	0.939	1.00	224
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1233 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1457	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1457	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 13.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.284 (Exibit 13-11)

S_R= 58.5 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company		From/To	*Coffee Road/Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2022 Alternative 1A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1610*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*593*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*9.1*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1260	V_D = veh/h
	Ramp Volume, V_R: 350	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1260	0.95	Level	10	0	0.952	1.00	1393
Ramp	350	0.95	Level	10	0	0.952	1.00	387
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 828 pc/h

V_3 or V_{av34} 565 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1780	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1215	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 11.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.280 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 64.8 mph (Exhibit 13-11)

S = 60.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Ave*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2022 Alternative 1A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1440*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*796*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*12.2*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company		Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	1500	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1610	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	440	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1610	0.95	Level	10	0	0.952	1.00	1779
Ramp	440	0.95	Level	10	0	0.952	1.00	486
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1779 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1779	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1293	Exhibit 13-8	4700	No
V_R	486	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1779	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 6.1 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.342 (Exhibit 13-12)

S_R= 57.1 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	600
Deceleration Lane Length L_D	
Freeway Volume, V_F	1170
Ramp Volume, V_R	270
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1170	0.95	Level	10	0	0.952	1.00	1293
Ramp	270	0.95	Level	10	0	0.952	1.00	298
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1293 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1591	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1591	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 14.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.286 (Exibit 13-11)

S_R= 58.4 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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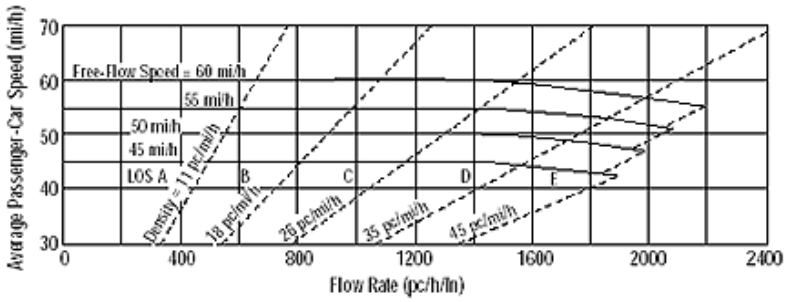
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	
Date Performed	6/13/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1380	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	762
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.9
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*726.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.28*
Bicycle level of service (Exhibit 15-4)	*E*

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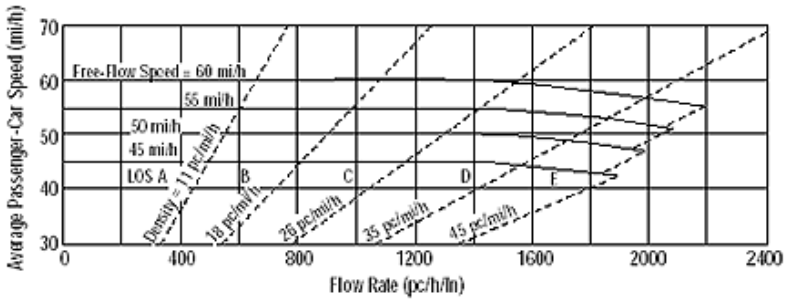
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	
Date Performed	6/13/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	400	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	221
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*210.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.65*
Bicycle level of service (Exhibit 15-4)	*E*

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company		Junction	Roselle Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1440	V_D = veh/h
	Ramp Volume, V_R: 300	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1440	0.95	Level	10	0	0.952	1.00	1592
Ramp	300	0.95	Level	10	0	0.952	1.00	332
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1592 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1592	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1260	Exhibit 13-8	4700	No
V_R	332	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1592	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 16.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.328 (Exhibit 13-12)

S_R= 57.5 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	600
Deceleration Lane Length L_D	
Freeway Volume, V_F	1140
Ramp Volume, V_R	260
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1140	0.95	Level	10	0	0.952	1.00	1260
Ramp	260	0.95	Level	10	0	0.952	1.00	287
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1260 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1547	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1547	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 13.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.285 (Exibit 13-11)

S_R= 58.4 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company		From/To	*Oakdale Road/Coffee Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2022 Alternative 1A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1270*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*468*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*7.2*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Coffee Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1270	V_D = veh/h
	Ramp Volume, V_R: 350	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1270	0.95	Level	10	0	0.952	1.00	1404
Ramp	350	0.95	Level	10	0	0.952	1.00	387
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.707 using Equation (Exhibit 13-7)

V_{12} = 1106 pc/h

V_3 or V_{av34} 298 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1404	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	1017	Exhibit 13-8	7050	No
V_R	387	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1106	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.333 (Exhibit 13-12)

S_R= 57.3 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 59.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	McHenry Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1000	V_D = veh/h
	Ramp Volume, V_R: 280	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1000	0.95	Level	10	0	0.952	1.00	1105
Ramp	280	0.95	Level	10	0	0.952	1.00	309
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 657 pc/h

V_3 or V_{av34} 448 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1414	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	966	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 9.1 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.277 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2022 Alternative 1A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1350*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*746*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*11.5*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company		Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1350	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	370	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1350	0.95	Level	10	0	0.952	1.00	1492
Ramp	370	0.95	Level	10	0	0.952	1.00	409
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1492 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1492	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1083	Exhibit 13-8	4700	No
V_R	409	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1492	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 15.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.335 (Exhibit 13-12)

S_R= 57.3 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	1500
Deceleration Lane Length L_D	
Freeway Volume, V_F	980
Ramp Volume, V_R	290
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	980	0.95	Level	10	0	0.952	1.00	1083
Ramp	290	0.95	Level	10	0	0.952	1.00	321
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1083 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1404	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1404	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 6.9 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.202 (Exibit 13-11)

S_R= 60.4 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 60.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company		Junction	Roselle Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1380	V_D = veh/h
	Ramp Volume, V_R: 180	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1380	0.95	Level	10	0	0.952	1.00	1525
Ramp	180	0.95	Level	10	0	0.952	1.00	199
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1525 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1525	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1326	Exhibit 13-8	4700	No
V_R	199	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1525	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 16.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.316 (Exhibit 13-12)

S_R= 57.7 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	600
Deceleration Lane Length L_D	
Freeway Volume, V_F	1200
Ramp Volume, V_R	150
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1200	0.95	Level	10	0	0.952	1.00	1326
Ramp	150	0.95	Level	10	0	0.952	1.00	166
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1326 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1492	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1492	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 13.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.284 (Exibit 13-11)

S_R= 58.5 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company	*Fehr & Peers*	From/To	*Coffee Road/Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 1B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*700*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*262*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*4.0*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 500	V_D = veh/h
	Ramp Volume, V_R: 200	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	500	0.95	Level	13	0	0.939	1.00	561
Ramp	200	0.95	Level	13	0	0.939	1.00	224
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 333 pc/h

V_3 or V_{av34} 228 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	785	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	557	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 6.0 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.274 (Exibit 13-11)

S_R= 58.7 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Avenue*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 1B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1040*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*583*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*9.0*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company		Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	1500	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	700	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	80	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	700	0.95	Level	13	0	0.939	1.00	785
Ramp	80	0.95	Level	13	0	0.939	1.00	90
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 785 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	785	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	695	Exhibit 13-8	4700	No
V_R	90	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	785	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = -2.5 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.306 (Exhibit 13-12)

S_R= 58.0 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 58.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 620	V_D = veh/h
	Ramp Volume, V_R: 420	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	620	0.95	Level	13	0	0.939	1.00	695
Ramp	420	0.95	Level	13	0	0.939	1.00	471
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 695 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1166	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1166	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 10.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.280 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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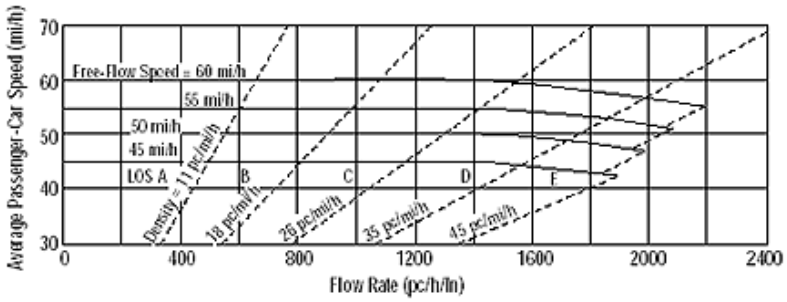
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/13/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1170	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	655
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.9
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*615.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.51*
Bicycle level of service (Exhibit 15-4)	*F*

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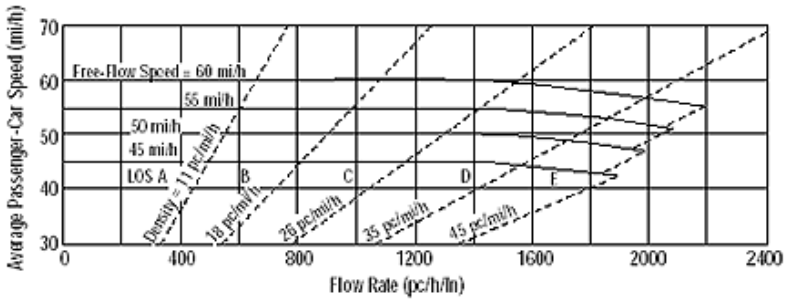
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/13/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1280	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	717
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.0
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*673.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.55*
Bicycle level of service (Exhibit 15-4)	*F*

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company		Junction	Roselle Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1040	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	100	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1040	0.95	Level	13	0	0.939	1.00	1166
Ramp	100	0.95	Level	13	0	0.939	1.00	112
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1166 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1166	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1054	Exhibit 13-8	4700	No
V_R	112	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1166	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.308 (Exhibit 13-12)

S_R= 57.9 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	600
Deceleration Lane Length L_D	
Freeway Volume, V_F	940
Ramp Volume, V_R	230
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	940	0.95	Level	13	0	0.939	1.00	1054
Ramp	230	0.95	Level	13	0	0.939	1.00	258
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1054 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1312	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1312	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 11.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.281 (Exibit 13-11)

S_R= 58.5 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company	*Fehr & Peers*	From/To	*Coffee Road/Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 1B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*700*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*262*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*4.0*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Coffee Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	3	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1450	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	320	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1450	0.95	Level	13	0	0.939	1.00	1626
Ramp	320	0.95	Level	13	0	0.939	1.00	359
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.703 using Equation (Exhibit 13-7)

V_{12} = 1249 pc/h

V_3 or V_{av34} 377 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1626	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	1267	Exhibit 13-8	7050	No
V_R	359	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1249	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 13.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.330 (Exhibit 13-12)

S_R= 57.4 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	McHenry Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1200	V_D = veh/h
	Ramp Volume, V_R: 300	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1200	0.95	Level	13	0	0.939	1.00	1345
Ramp	300	0.95	Level	13	0	0.939	1.00	336
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 799 pc/h

V_3 or V_{av34} 546 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1681	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1135	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 10.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.279 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 64.8 mph (Exhibit 13-11)

S = 60.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 1A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1290*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*723*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*11.1*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company		Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1290	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	210	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1290	0.95	Level	13	0	0.939	1.00	1446
Ramp	210	0.95	Level	13	0	0.939	1.00	235
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1446 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1446	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1211	Exhibit 13-8	4700	No
V_R	235	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1446	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 15.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.319 (Exhibit 13-12)

S_R= 57.7 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 1500	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1080	V_D = veh/h
	Ramp Volume, V_R: 370	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1080	0.95	Level	13	0	0.939	1.00	1211
Ramp	370	0.95	Level	13	0	0.939	1.00	415
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1211 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1626	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1626	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 8.6 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.206 (Exibit 13-11)

S_R= 60.3 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 60.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company		Junction	Roselle Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1280	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	190	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1280	0.95	Level	13	0	0.939	1.00	1435
Ramp	190	0.95	Level	13	0	0.939	1.00	213
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1435 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1435	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1222	Exhibit 13-8	4700	No
V_R	213	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1435	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 15.2 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.317 (Exhibit 13-12)

S_R= 57.7 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	600
Deceleration Lane Length L_D	
Freeway Volume, V_F	1090
Ramp Volume, V_R	200
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1090	0.95	Level	13	0	0.939	1.00	1222
Ramp	200	0.95	Level	13	0	0.939	1.00	224
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1222 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1446	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1446	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 12.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.284 (Exibit 13-11)

S_R= 58.5 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company		From/To	*Coffee Road/Oakdale Road*
Date Performed		Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2022 Alternative 1B*
Project Description			

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1590*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*586*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*9.0*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1240	V_D = veh/h
	Ramp Volume, V_R: 350	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1240	0.95	Level	10	0	0.952	1.00	1371
Ramp	350	0.95	Level	10	0	0.952	1.00	387
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 815 pc/h

V_3 or V_{av34} 556 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1758	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1202	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 10.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.280 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 64.8 mph (Exhibit 13-11)

S = 60.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Ave*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1400*	veh/h	Peak-Hour Factor, PHF	*0.95*	
AADT		veh/day	%Trucks and Buses, P_T	*10*	
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*	
Peak-Hr Direction Prop, D			General Terrain:	*Level*	
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*774*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*11.9*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	1500	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1590	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	450	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1590	0.95	Level	10	0	0.952	1.00	1757
Ramp	450	0.95	Level	10	0	0.952	1.00	497
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1757 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1757	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1260	Exhibit 13-8	4700	No
V_R	497	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1757	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 5.9 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.343 (Exhibit 13-12)

S_R= 57.1 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	600
Deceleration Lane Length L_D	
Freeway Volume, V_F	1140
Ramp Volume, V_R	260
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1140	0.95	Level	10	0	0.952	1.00	1260
Ramp	260	0.95	Level	10	0	0.952	1.00	287
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1260 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1547	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1547	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 13.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.285 (Exibit 13-11)

S_R= 58.4 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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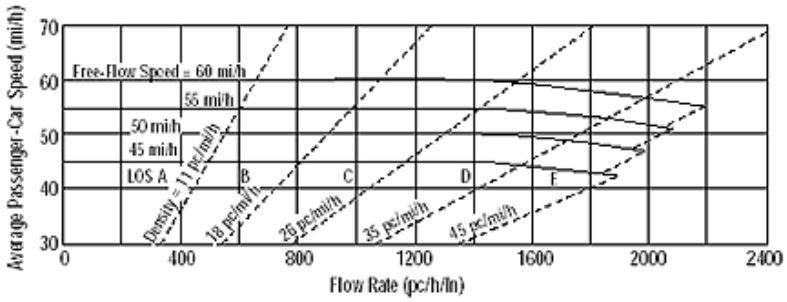
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/13/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1360	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	751
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*715.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.27*
Bicycle level of service (Exhibit 15-4)	*E*

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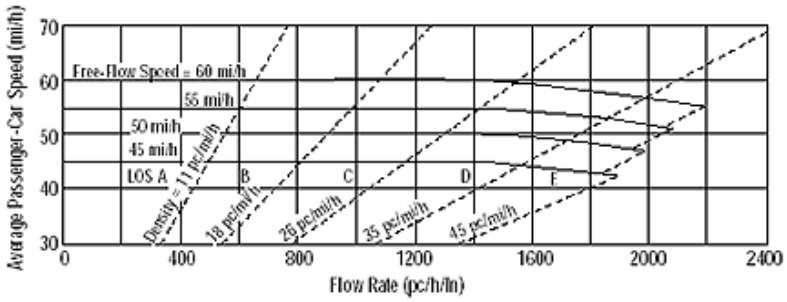
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/13/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1370	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	757
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.8
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*721.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.28*
Bicycle level of service (Exhibit 15-4)	*E*

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Roselle Ave Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1400	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	300	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1400	0.95	Level	10	0	0.952	1.00	1547
Ramp	300	0.95	Level	10	0	0.952	1.00	332
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1547 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1547	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1215	Exhibit 13-8	4700	No
V_R	332	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1547	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 16.2 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.328 (Exhibit 13-12)

S_R= 57.5 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	600
Deceleration Lane Length L_D	
Freeway Volume, V_F	1100
Ramp Volume, V_R	260
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1100	0.95	Level	10	0	0.952	1.00	1216
Ramp	260	0.95	Level	10	0	0.952	1.00	287
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1216 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1503	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1503	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 13.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.285 (Exibit 13-11)

S_R= 58.5 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company		From/To	*Oakdale Road/Coffee Road*
Date Performed		Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2022 Alternative 1B*
Project Description			

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1260*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*464*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*7.1*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Coffee Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	3	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1260	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	240	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1260	0.95	Level	10	0	0.952	1.00	1393
Ramp	240	0.95	Level	10	0	0.952	1.00	265
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.713 using Equation (Exhibit 13-7)

V_{12} = 1069 pc/h

V_3 or V_{av34} 324 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1393	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	1128	Exhibit 13-8	7050	No
V_R	265	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1069	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.322 (Exhibit 13-12)

S_R= 57.6 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	McHenry Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1000	V_D = veh/h
	Ramp Volume, V_R: 280	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1000	0.95	Level	10	0	0.952	1.00	1105
Ramp	280	0.95	Level	10	0	0.952	1.00	309
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 657 pc/h

V_3 or V_{av34} 448 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1414	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	966	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 9.1 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.277 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1340*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*741*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*11.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company		Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1340	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	370	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1340	0.95	Level	10	0	0.952	1.00	1481
Ramp	370	0.95	Level	10	0	0.952	1.00	409
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1481 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1481	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1072	Exhibit 13-8	4700	No
V_R	409	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1481	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 15.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.335 (Exhibit 13-12)

S_R= 57.3 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	600
Deceleration Lane Length L_D	
Freeway Volume, V_F	970
Ramp Volume, V_R	290
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	970	0.95	Level	10	0	0.952	1.00	1072
Ramp	290	0.95	Level	10	0	0.952	1.00	321
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1072 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1393	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1393	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 12.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.283 (Exibit 13-11)

S_R= 58.5 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Roselle Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1370	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	180	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1370	0.95	Level	10	0	0.952	1.00	1514
Ramp	180	0.95	Level	10	0	0.952	1.00	199
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1514 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1514	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1315	Exhibit 13-8	4700	No
V_R	199	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1514	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 15.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.316 (Exhibit 13-12)

S_R= 57.7 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1190	V_D = veh/h
	Ramp Volume, V_R: 150	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1190	0.95	Level	10	0	0.952	1.00	1315
Ramp	150	0.95	Level	10	0	0.952	1.00	166
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1315 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1481	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1481	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 13.2 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.284 (Exibit 13-11)

S_R= 58.5 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company	*Fehr & Peers*	From/To	*Coffee Road/Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*660*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*247*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*3.8*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 440	V_D = veh/h
	Ramp Volume, V_R: 220	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	440	0.95	Level	13	0	0.939	1.00	493
Ramp	220	0.95	Level	13	0	0.939	1.00	247
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 293 pc/h

V_3 or V_{av34} 200 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	740	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	540	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 5.8 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.274 (Exibit 13-11)

S_R= 58.7 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Avenue*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*980*	veh/h	Peak-Hour Factor, PHF	*0.95*	
AADT		veh/day	%Trucks and Buses, P_T	*13*	
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*	
Peak-Hr Direction Prop, D			General Terrain:	*Level*	
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*549*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*8.4*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	1500	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	660	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	80	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	660	0.95	Level	13	0	0.939	1.00	740
Ramp	80	0.95	Level	13	0	0.939	1.00	90
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 740 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	740	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	650	Exhibit 13-8	4700	No
V_R	90	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	740	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = -2.9 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.306 (Exhibit 13-12)

S_R= 58.0 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 58.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 580	V_D = veh/h
	Ramp Volume, V_R: 400	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	580	0.95	Level	13	0	0.939	1.00	650
Ramp	400	0.95	Level	13	0	0.939	1.00	448
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 650 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1098	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1098	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 10.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.279 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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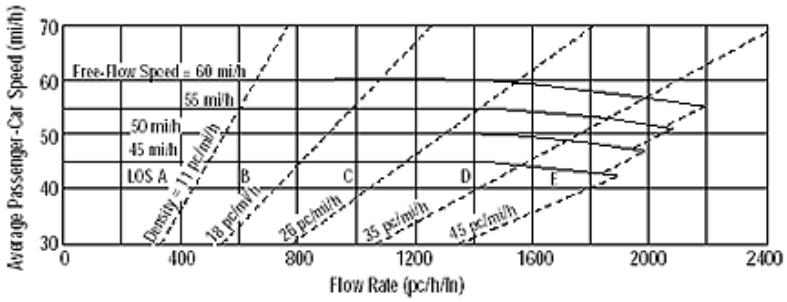
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/13/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1010	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	566
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*531.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.43*
Bicycle level of service (Exhibit 15-4)	*F*

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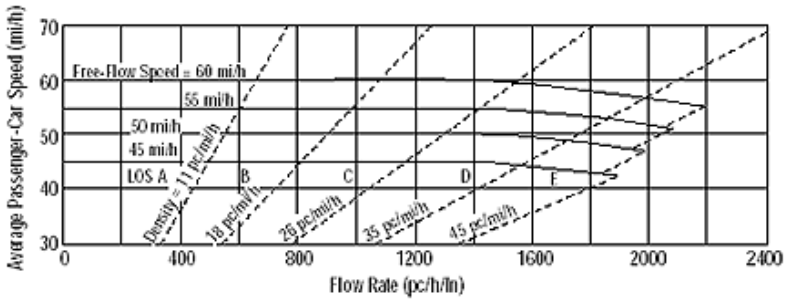
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/13/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1110	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	622
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.3
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*584.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.48*
Bicycle level of service (Exhibit 15-4)	*F*

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Roselle Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	980	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	100	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	980	0.95	Level	13	0	0.939	1.00	1099
Ramp	100	0.95	Level	13	0	0.939	1.00	112
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1099 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1099	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	987	Exhibit 13-8	4700	No
V_R	112	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1099	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.308 (Exhibit 13-12)

S_R= 57.9 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 880	V_D = veh/h
	Ramp Volume, V_R: 230	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	880	0.95	Level	13	0	0.939	1.00	987
Ramp	230	0.95	Level	13	0	0.939	1.00	258
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 987 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1245	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1245	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 11.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.281 (Exibit 13-11)

S_R= 58.5 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Coffee Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1250*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*467*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*7.2*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Coffee Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1250	V_D = veh/h
	Ramp Volume, V_R: 290	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1250	0.95	Level	13	0	0.939	1.00	1401
Ramp	290	0.95	Level	13	0	0.939	1.00	325
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.710 using Equation (Exhibit 13-7)

V_{12} = 1089 pc/h

V_3 or V_{av34} 312 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1401	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	1076	Exhibit 13-8	7050	No
V_R	325	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1089	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.327 (Exhibit 13-12)

S_R= 57.5 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	McHenry Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1110	V_D = veh/h
	Ramp Volume, V_R: 300	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1110	0.95	Level	13	0	0.939	1.00	1244
Ramp	300	0.95	Level	13	0	0.939	1.00	336
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 739 pc/h

V_3 or V_{av34} 505 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1580	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1075	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 9.9 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.278 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1040*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*583*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*9.0*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1040	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	160	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1040	0.95	Level	13	0	0.939	1.00	1166
Ramp	160	0.95	Level	13	0	0.939	1.00	179
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1166 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1166	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	987	Exhibit 13-8	4700	No
V_R	179	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1166	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.314 (Exhibit 13-12)

S_R= 57.8 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 1500	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 880	V_D = veh/h
	Ramp Volume, V_R: 370	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	880	0.95	Level	13	0	0.939	1.00	987
Ramp	370	0.95	Level	13	0	0.939	1.00	415
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 987 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1402	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1402	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 6.8 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.202 (Exibit 13-11)

S_R= 60.4 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 60.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Roselle Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1010	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	170	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1010	0.95	Level	13	0	0.939	1.00	1132
Ramp	170	0.95	Level	13	0	0.939	1.00	191
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1132 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1132	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	941	Exhibit 13-8	4700	No
V_R	191	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1132	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.315 (Exhibit 13-12)

S_R= 57.8 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 840	V_D = veh/h
	Ramp Volume, V_R: 200	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	840	0.95	Level	13	0	0.939	1.00	942
Ramp	200	0.95	Level	13	0	0.939	1.00	224
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 942 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1166	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1166	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 10.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.280 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company	*Fehr & Peers*	From/To	*Coffee Road/Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2022 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1410*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*519*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*8.0*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1100	V_D = veh/h
	Ramp Volume, V_R: 310	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1100	0.95	Level	10	0	0.952	1.00	1216
Ramp	310	0.95	Level	10	0	0.952	1.00	343
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 723 pc/h

V_3 or V_{av34} 493 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1559	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1066	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 9.9 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.278 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Ave*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2022 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1200*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
			Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*663*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*10.2*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	1500	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1410	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	440	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1410	0.95	Level	10	0	0.952	1.00	1558
Ramp	440	0.95	Level	10	0	0.952	1.00	486
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1558 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1558	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1072	Exhibit 13-8	4700	No
V_R	486	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1558	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 4.2 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.342 (Exhibit 13-12)

S_R= 57.1 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 970	V_D = veh/h
	Ramp Volume, V_R: 230	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	970	0.95	Level	10	0	0.952	1.00	1072
Ramp	230	0.95	Level	10	0	0.952	1.00	254
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1072 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1326	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1326	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 11.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.282 (Exibit 13-11)

S_R= 58.5 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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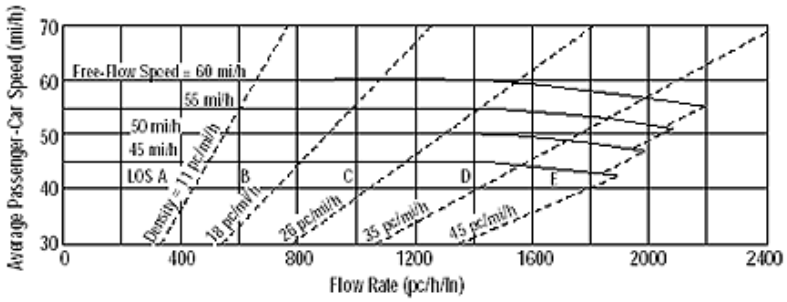
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/13/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1160	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	641
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*610.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.19*
Bicycle level of service (Exhibit 15-4)	*E*

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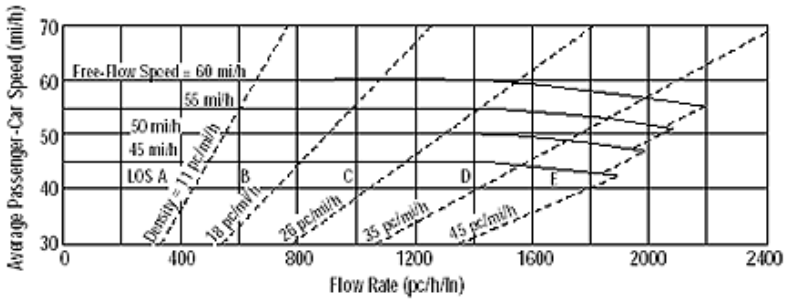
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/13/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1050	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	580
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.5
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*552.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.14*
Bicycle level of service (Exhibit 15-4)	*E*

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Roselle Ave Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 900	V_D = veh/h
	Ramp Volume, V_R: 300	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	900	0.95	Level	10	0	0.952	1.00	995
Ramp	300	0.95	Level	10	0	0.952	1.00	332
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 995 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	995	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	663	Exhibit 13-8	4700	No
V_R	332	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	995	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 11.5 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.328 (Exhibit 13-12)

S_R= 57.5 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 900	V_D = veh/h
	Ramp Volume, V_R: 260	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	900	0.95	Level	10	0	0.952	1.00	995
Ramp	260	0.95	Level	10	0	0.952	1.00	287
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 995 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1282	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1282	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 11.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.281 (Exibit 13-11)

S_R= 58.5 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Coffee Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2022 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1090*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*402*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*6.2*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Coffee Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1090	V_D = veh/h
	Ramp Volume, V_R: 230	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1090	0.95	Level	10	0	0.952	1.00	1205
Ramp	230	0.95	Level	10	0	0.952	1.00	254
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.718 using Equation (Exhibit 13-7)

V_{12} = 937 pc/h

V_3 or V_{av34} 268 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1205	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	951	Exhibit 13-8	7050	No
V_R	254	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	937	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 11.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.321 (Exhibit 13-12)

S_R= 57.6 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	McHenry Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 900	V_D = veh/h
	Ramp Volume, V_R: 270	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	900	0.95	Level	10	0	0.952	1.00	995
Ramp	270	0.95	Level	10	0	0.952	1.00	298
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 591 pc/h

V_3 or V_{av34} 404 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1293	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	889	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 8.5 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.276 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2022 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1040*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*575*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*8.8*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1040	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	250	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1040	0.95	Level	10	0	0.952	1.00	1149
Ramp	250	0.95	Level	10	0	0.952	1.00	276
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1149 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1149	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	873	Exhibit 13-8	4700	No
V_R	276	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1149	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.323 (Exhibit 13-12)

S_R= 57.6 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 1500	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 790	V_D = veh/h
	Ramp Volume, V_R: 300	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	790	0.95	Level	10	0	0.952	1.00	873
Ramp	300	0.95	Level	10	0	0.952	1.00	332
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 873 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1205	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1205	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 5.3 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.199 (Exibit 13-11)

S_R= 60.4 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 60.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Roselle Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1050	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	160	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1050	0.95	Level	10	0	0.952	1.00	1161
Ramp	160	0.95	Level	10	0	0.952	1.00	177
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1161 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1161	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	984	Exhibit 13-8	4700	No
V_R	177	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1161	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.314 (Exhibit 13-12)

S_R= 57.8 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 890	V_D = veh/h
	Ramp Volume, V_R: 150	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	890	0.95	Level	10	0	0.952	1.00	984
Ramp	150	0.95	Level	10	0	0.952	1.00	166
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 984 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1150	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1150	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 10.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.279 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company	*Fehr & Peers*	From/To	*Coffee Road/Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 2B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*610*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*228*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*3.5*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 440	V_D = veh/h
	Ramp Volume, V_R: 210	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	440	0.95	Level	13	0	0.939	1.00	493
Ramp	210	0.95	Level	13	0	0.939	1.00	235
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 293 pc/h

V_3 or V_{av34} 200 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	728	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	528	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 5.7 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.274 (Exibit 13-11)

S_R= 58.7 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Avenue*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 2B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*950*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*533*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*8.2*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	1500	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	650	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	90	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	650	0.95	Level	13	0	0.939	1.00	729
Ramp	90	0.95	Level	13	0	0.939	1.00	101
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 729 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	729	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	628	Exhibit 13-8	4700	No
V_R	101	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	729	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = -3.0 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.307 (Exhibit 13-12)

S_R= 57.9 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 560	V_D = veh/h
	Ramp Volume, V_R: 390	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	560	0.95	Level	13	0	0.939	1.00	628
Ramp	390	0.95	Level	13	0	0.939	1.00	437
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 628 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1065	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1065	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 9.8 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.278 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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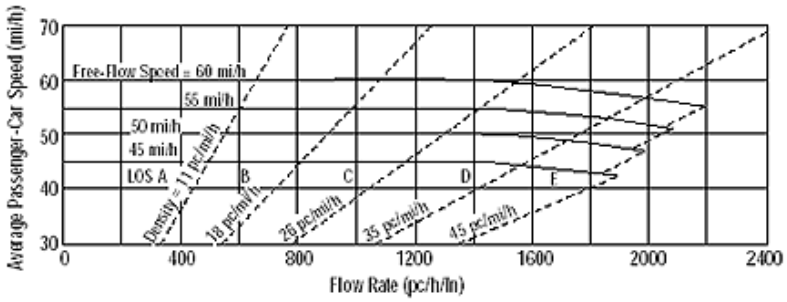
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/13/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1080	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	605
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*568.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.46*
Bicycle level of service (Exhibit 15-4)	*F*

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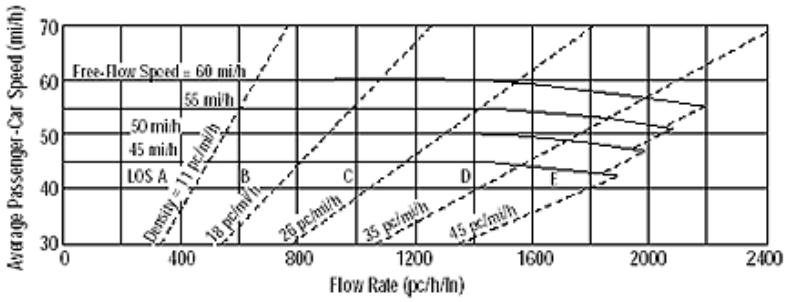
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/13/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	980	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	549
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*515.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.42*
Bicycle level of service (Exhibit 15-4)	*F*

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Roselle Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	950	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	100	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	950	0.95	Level	13	0	0.939	1.00	1065
Ramp	100	0.95	Level	13	0	0.939	1.00	112
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1065 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1065	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	953	Exhibit 13-8	4700	No
V_R	112	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1065	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.308 (Exhibit 13-12)

S_R= 57.9 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 850	V_D = veh/h
	Ramp Volume, V_R: 230	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	850	0.95	Level	13	0	0.939	1.00	953
Ramp	230	0.95	Level	13	0	0.939	1.00	258
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 953 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1211	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1211	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 11.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.280 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Coffee Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 2B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1250*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*467*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*7.2*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Coffee Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1250	V_D = veh/h
	Ramp Volume, V_R: 290	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1250	0.95	Level	13	0	0.939	1.00	1401
Ramp	290	0.95	Level	13	0	0.939	1.00	325
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.710 using Equation (Exhibit 13-7)

V_{12} = 1089 pc/h

V_3 or V_{av34} 312 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1401	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	1076	Exhibit 13-8	7050	No
V_R	325	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1089	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.327 (Exhibit 13-12)

S_R= 57.5 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	McHenry Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1110	V_D = veh/h
	Ramp Volume, V_R: 300	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1110	0.95	Level	13	0	0.939	1.00	1244
Ramp	300	0.95	Level	13	0	0.939	1.00	336
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 739 pc/h

V_3 or V_{av34} 505 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1580	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1075	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 9.9 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.278 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2022 Alternative 2B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1250*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*701*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*10.8*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1010	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	140	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1010	0.95	Level	13	0	0.939	1.00	1132
Ramp	140	0.95	Level	13	0	0.939	1.00	157
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1132 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1132	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	975	Exhibit 13-8	4700	No
V_R	157	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1132	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.312 (Exhibit 13-12)

S_R= 57.8 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 1500	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1250	V_D = veh/h
	Ramp Volume, V_R: 380	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1250	0.95	Level	13	0	0.939	1.00	1401
Ramp	380	0.95	Level	13	0	0.939	1.00	426
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1401 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1827	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1827	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 10.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.210 (Exibit 13-11)

S_R= 60.2 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 60.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Roselle Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	980	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	170	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	980	0.95	Level	13	0	0.939	1.00	1099
Ramp	170	0.95	Level	13	0	0.939	1.00	191
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1099 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1099	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	908	Exhibit 13-8	4700	No
V_R	191	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1099	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.315 (Exhibit 13-12)

S_R= 57.8 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 810	V_D = veh/h
	Ramp Volume, V_R: 200	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	810	0.95	Level	13	0	0.939	1.00	908
Ramp	200	0.95	Level	13	0	0.939	1.00	224
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 908 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1132	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1132	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 10.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.279 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company	*Fehr & Peers*	From/To	*Coffee Road/Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1400*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*516*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*7.9*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1090	V_D = veh/h
	Ramp Volume, V_R: 310	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1090	0.95	Level	10	0	0.952	1.00	1205
Ramp	310	0.95	Level	10	0	0.952	1.00	343
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 716 pc/h

V_3 or V_{av34} 489 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1548	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1059	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 9.8 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.278 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Ave*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2022 Alternative 2B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1140*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
			Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*630*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*9.7*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	1500	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1400	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	450	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1400	0.95	Level	10	0	0.952	1.00	1547
Ramp	450	0.95	Level	10	0	0.952	1.00	497
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1547 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1547	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1050	Exhibit 13-8	4700	No
V_R	497	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1547	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 4.1 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.343 (Exhibit 13-12)

S_R= 57.1 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 950	V_D = veh/h
	Ramp Volume, V_R: 190	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	950	0.95	Level	10	0	0.952	1.00	1050
Ramp	190	0.95	Level	10	0	0.952	1.00	210
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1050 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1260	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1260	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 11.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.281 (Exibit 13-11)

S_R= 58.5 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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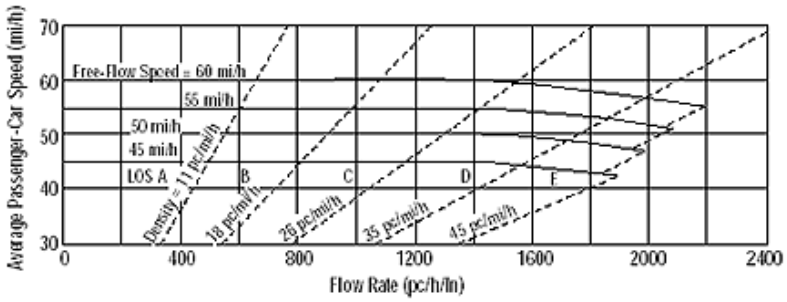
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/13/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1100	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	607
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.0+
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*578.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.17*
Bicycle level of service (Exhibit 15-4)	*E*

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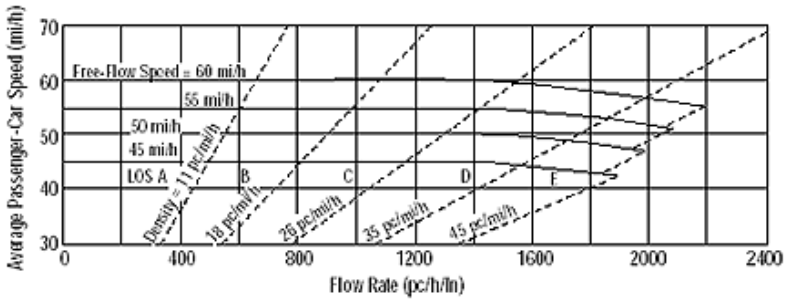
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/13/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1040	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	574
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.4
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*547.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.14*
Bicycle level of service (Exhibit 15-4)	*E*

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Roselle Ave Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1140	V_D = veh/h
	Ramp Volume, V_R: 300	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1140	0.95	Level	10	0	0.952	1.00	1260
Ramp	300	0.95	Level	10	0	0.952	1.00	332
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1260 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1260	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	928	Exhibit 13-8	4700	No
V_R	332	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1260	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 13.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.328 (Exhibit 13-12)

S_R= 57.5 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 840	V_D = veh/h
	Ramp Volume, V_R: 260	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	840	0.95	Level	10	0	0.952	1.00	928
Ramp	260	0.95	Level	10	0	0.952	1.00	287
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 928 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1215	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1215	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 11.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.280 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Coffee Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2022 Alternative 2B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1080*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*398*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*6.1*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Coffee Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1080	V_D = veh/h
	Ramp Volume, V_R: 220	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1080	0.95	Level	10	0	0.952	1.00	1194
Ramp	220	0.95	Level	10	0	0.952	1.00	243
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.719 using Equation (Exhibit 13-7)

V_{12} = 927 pc/h

V_3 or V_{av34} 267 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1194	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	951	Exhibit 13-8	7050	No
V_R	243	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	927	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 10.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.320 (Exhibit 13-12)

S_R= 57.6 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	McHenry Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 900	V_D = veh/h
	Ramp Volume, V_R: 270	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	900	0.95	Level	10	0	0.952	1.00	995
Ramp	270	0.95	Level	10	0	0.952	1.00	298
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 591 pc/h

V_3 or V_{av34} 404 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1293	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	889	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 8.5 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.276 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*6/13/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2022 Alternative 2B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1030*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*569*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*8.8*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1030	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	250	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1030	0.95	Level	10	0	0.952	1.00	1138
Ramp	250	0.95	Level	10	0	0.952	1.00	276
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1138 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1138	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	862	Exhibit 13-8	4700	No
V_R	276	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1138	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.323 (Exhibit 13-12)

S_R= 57.6 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 1500	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 780	V_D = veh/h
	Ramp Volume, V_R: 300	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	780	0.95	Level	10	0	0.952	1.00	862
Ramp	300	0.95	Level	10	0	0.952	1.00	332
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 862 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1194	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1194	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 5.2 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.199 (Exibit 13-11)

S_R= 60.4 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 60.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Roselle Road Off-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1040	V_D = veh/h
	Ramp Volume, V_R: 160	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1040	0.95	Level	10	0	0.952	1.00	1149
Ramp	160	0.95	Level	10	0	0.952	1.00	177
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1149 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1149	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	972	Exhibit 13-8	4700	No
V_R	177	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1149	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 12.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.314 (Exhibit 13-12)

S_R= 57.8 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	6/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2022 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 880	V_D = veh/h
	Ramp Volume, V_R: 150	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	880	0.95	Level	10	0	0.952	1.00	973
Ramp	150	0.95	Level	10	0	0.952	1.00	166
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 973 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1139	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1139	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 10.5 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.279 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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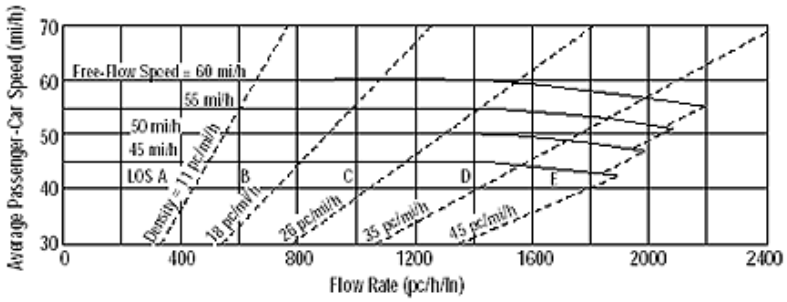
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/9/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	540	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	302
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.5
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*284.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.11*
Bicycle level of service (Exhibit 15-4)	*F*

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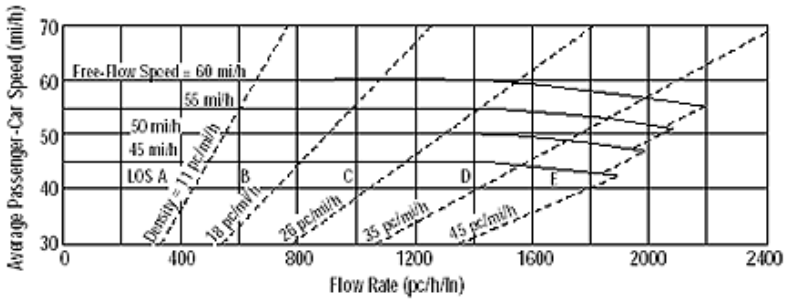
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/9/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	630	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	353
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.4
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*331.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.19*
Bicycle level of service (Exhibit 15-4)	*F*

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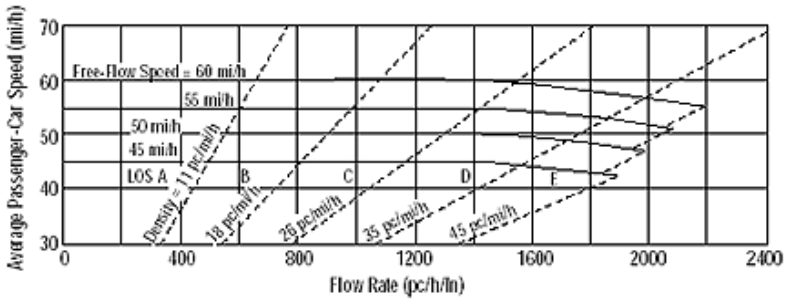
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	780	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	291
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*273.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.10*
Bicycle level of service (Exhibit 15-4)	*F*

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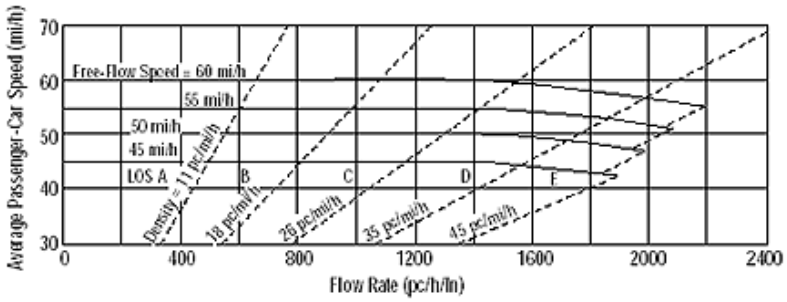
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1230	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	459
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*431.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.33*
Bicycle level of service (Exhibit 15-4)	*F*

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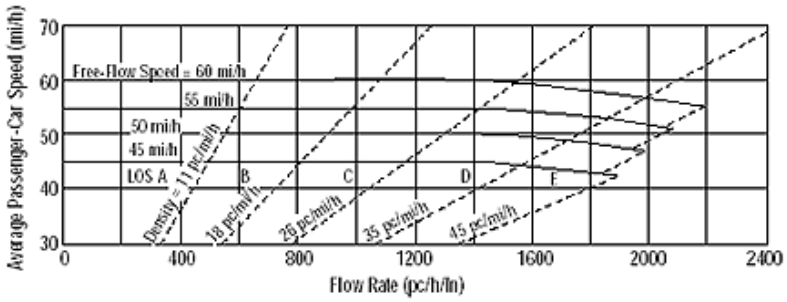
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1290	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	723
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*678.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.56*
Bicycle level of service (Exhibit 15-4)	*F*

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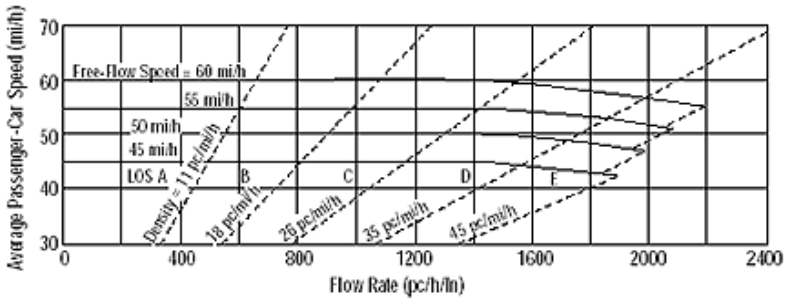
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1300	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	728
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.2
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*684.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.56*
Bicycle level of service (Exhibit 15-4)	*F*

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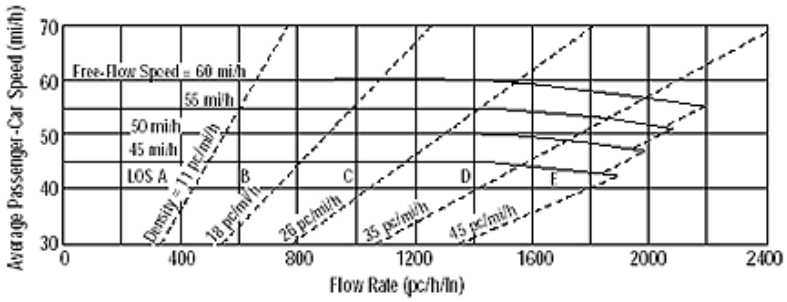
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	910	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	510
Speed, S (mi/h)	55.0
D (pc/mi/ln)	9.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*478.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.38*
Bicycle level of service (Exhibit 15-4)	*F*

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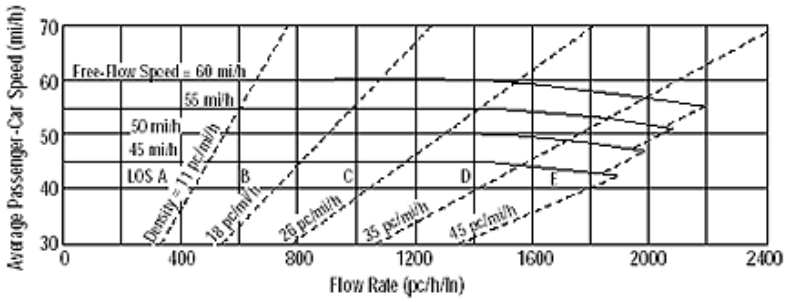
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	660	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	369
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.7
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*347.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.22*
Bicycle level of service (Exhibit 15-4)	*F*

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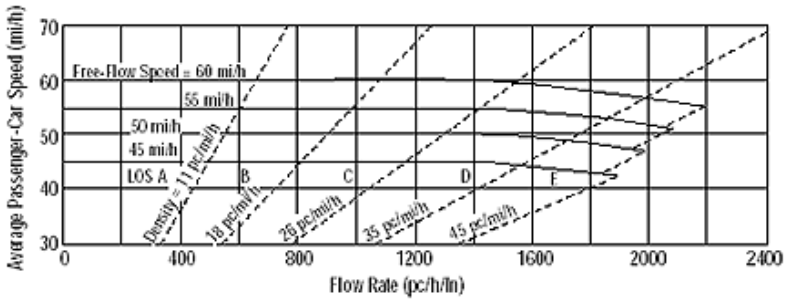
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	
Date Performed	6/9/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1190	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	667
Speed, S (mi/h)	55.0
D (pc/mi/ln)	12.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*626.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.51*
Bicycle level of service (Exhibit 15-4)	*F*

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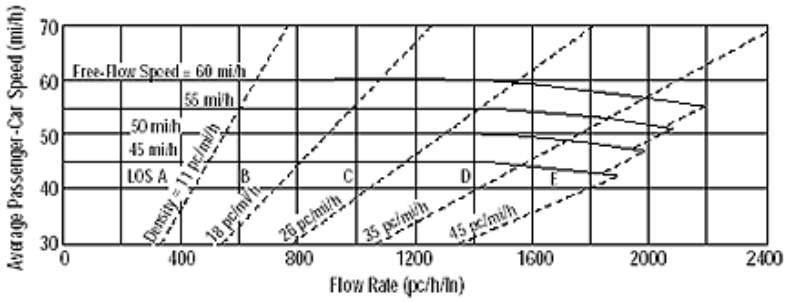
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	
Date Performed	6/9/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1290	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	723
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*678.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.56*
Bicycle level of service (Exhibit 15-4)	*F*

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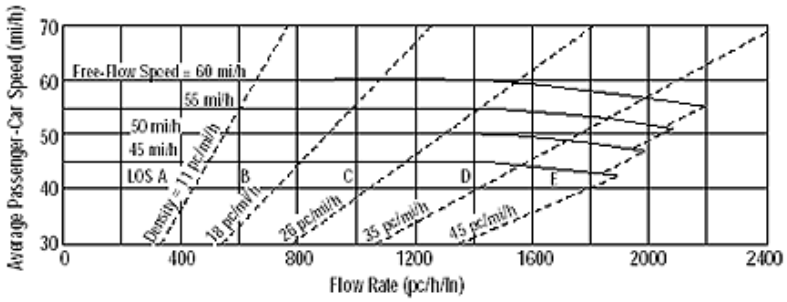
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	390	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	218
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*205.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.95*
Bicycle level of service (Exhibit 15-4)	*F*

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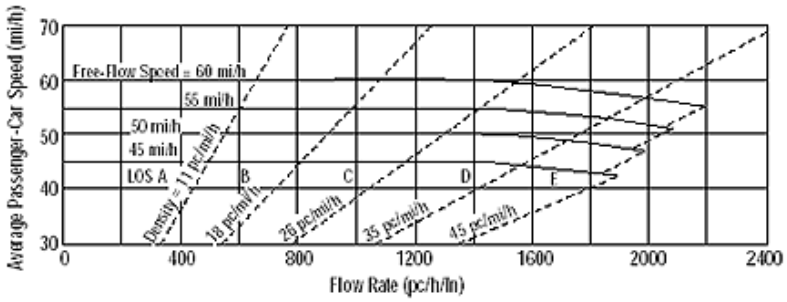
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	480	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	269
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.9
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*252.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.05*
Bicycle level of service (Exhibit 15-4)	*F*

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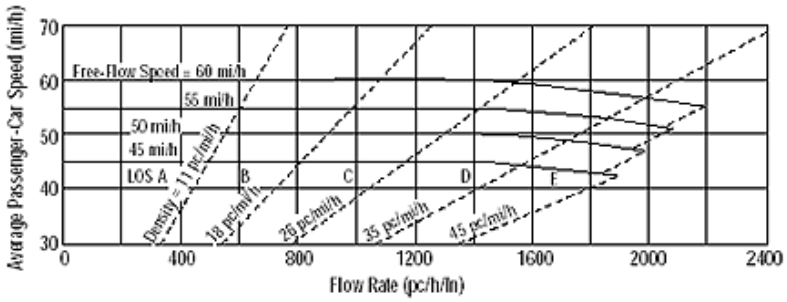
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	600	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	224
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*210.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.96*
Bicycle level of service (Exhibit 15-4)	*F*

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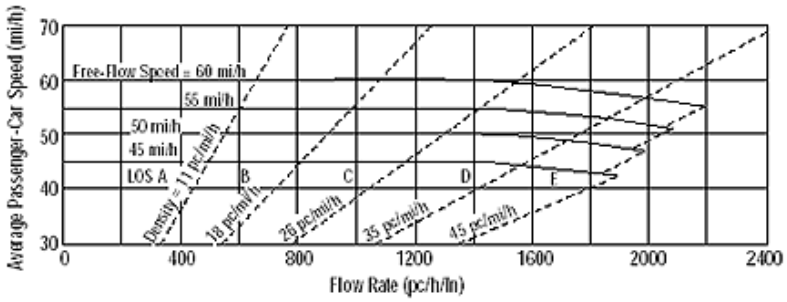
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1500	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	560
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.2
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*526.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.43*
Bicycle level of service (Exhibit 15-4)	*F*

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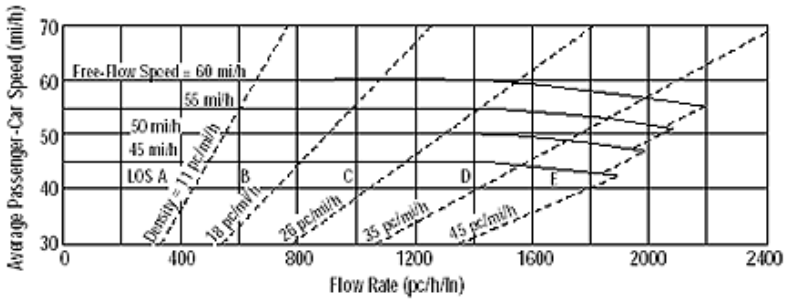
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1380	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	762
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.9
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*726.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.28*
Bicycle level of service (Exhibit 15-4)	*E*

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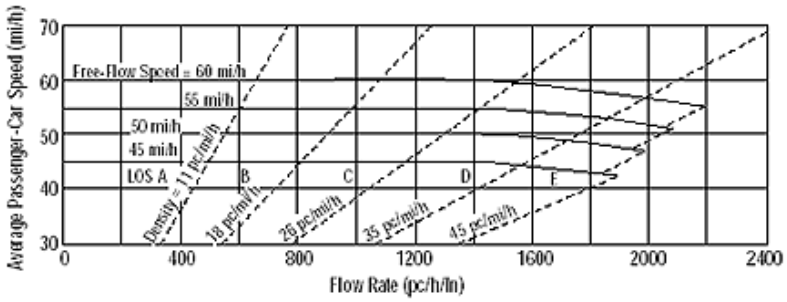
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/9/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	650	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	359
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.5
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*342.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.90*
Bicycle level of service (Exhibit 15-4)	*E*

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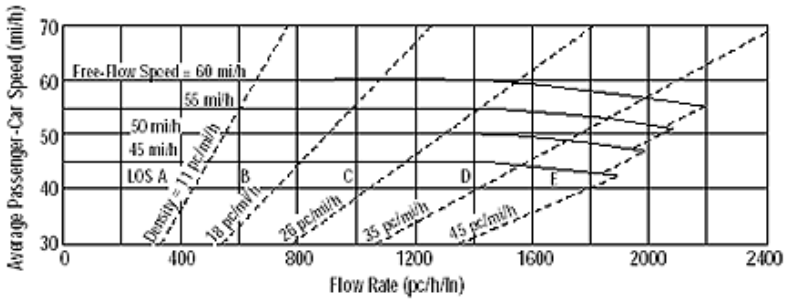
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1200	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	442
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*421.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.00*
Bicycle level of service (Exhibit 15-4)	*E*

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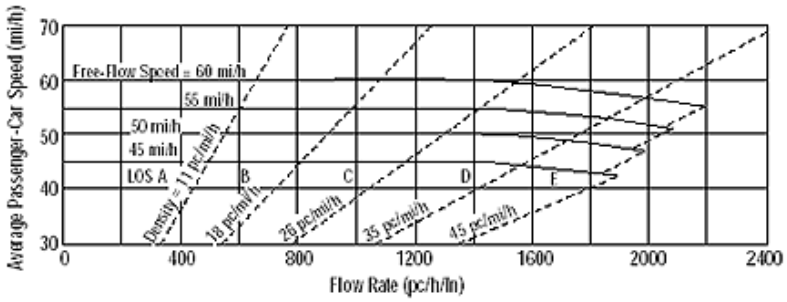
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1160	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	427
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*407.0*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.99*
Bicycle level of service (Exhibit 15-4)	*E*

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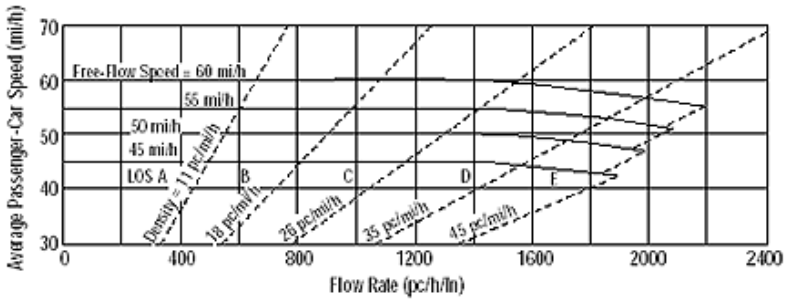
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1400	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	773
Speed, S (mi/h)	55.0
D (pc/mi/ln)	14.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*736.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.29*
Bicycle level of service (Exhibit 15-4)	*E*

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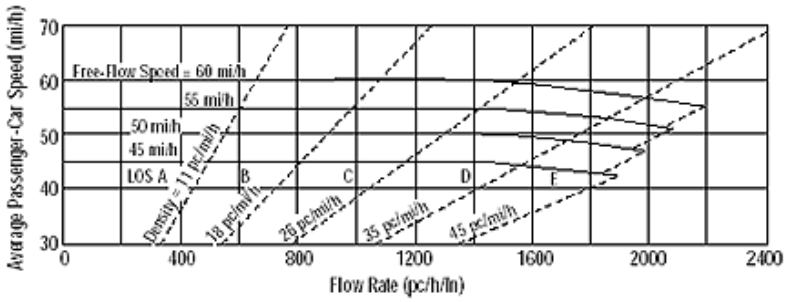
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1410	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	779
Speed, S (mi/h)	55.0
D (pc/mi/ln)	14.2
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*742.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.29*
Bicycle level of service (Exhibit 15-4)	*E*

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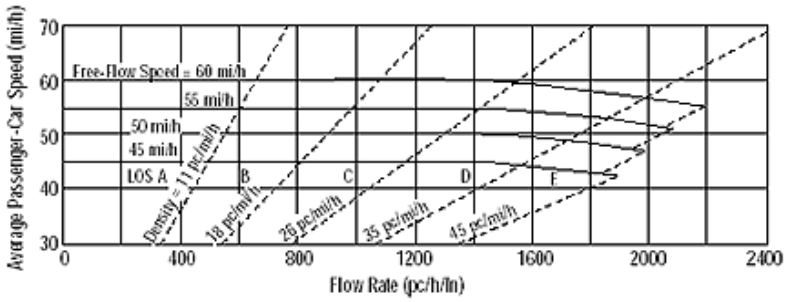
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	910	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	502
Speed, S (mi/h)	55.0
D (pc/mi/ln)	9.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*478.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.07*
Bicycle level of service (Exhibit 15-4)	*E*

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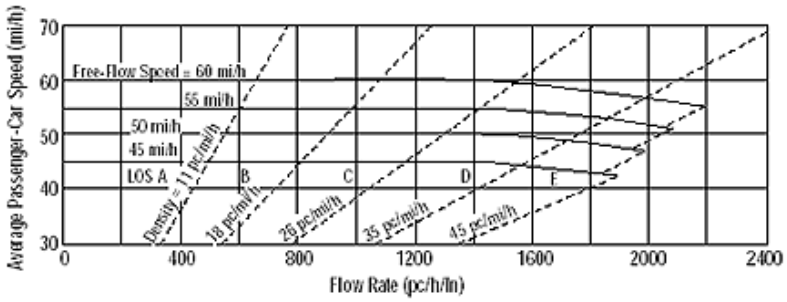
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	970	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	536
Speed, S (mi/h)	55.0
D (pc/mi/ln)	9.7
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*510.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.10*
Bicycle level of service (Exhibit 15-4)	*E*

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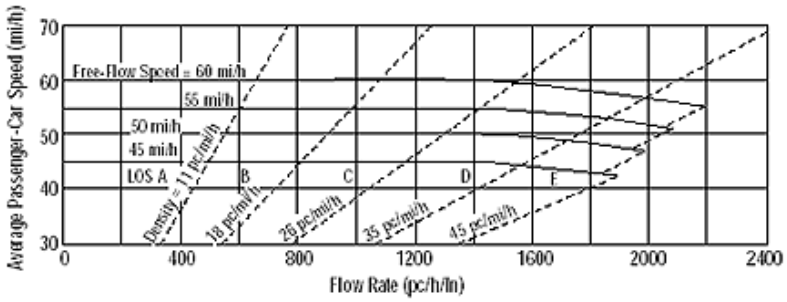
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1380	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	762
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.9
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*726.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.28*
Bicycle level of service (Exhibit 15-4)	*E*

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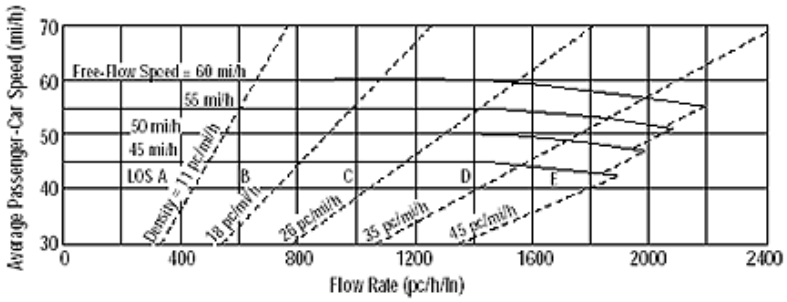
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1400	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	773
Speed, S (mi/h)	55.0
D (pc/mi/ln)	14.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*736.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.29*
Bicycle level of service (Exhibit 15-4)	*E*

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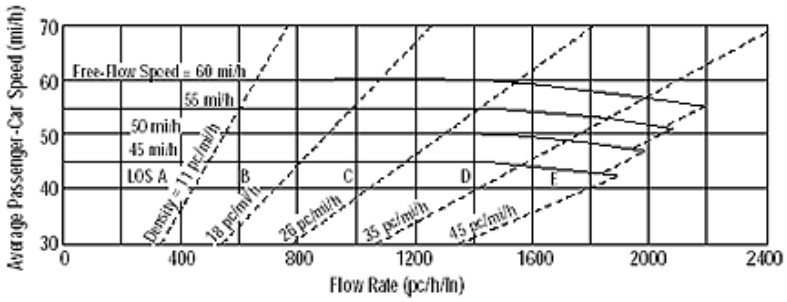
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	560	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	309
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*294.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.82*
Bicycle level of service (Exhibit 15-4)	*E*

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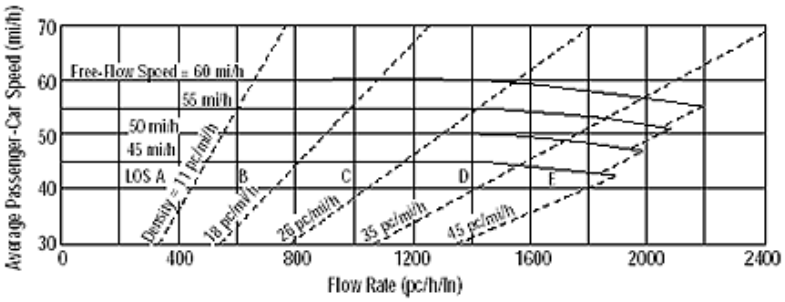
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	440	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	243
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.4
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*231.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.70*
Bicycle level of service (Exhibit 15-4)	*E*

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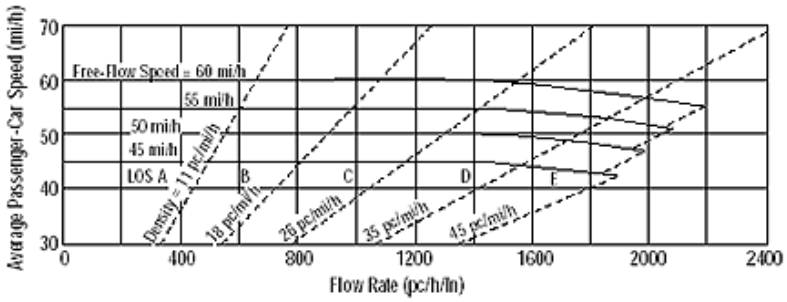
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1530	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	563
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.2
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*536.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.13*
Bicycle level of service (Exhibit 15-4)	*E*

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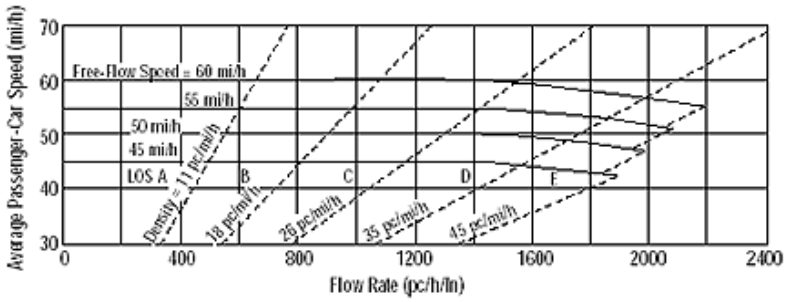
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1280	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	471
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*449.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.04*
Bicycle level of service (Exhibit 15-4)	*E*

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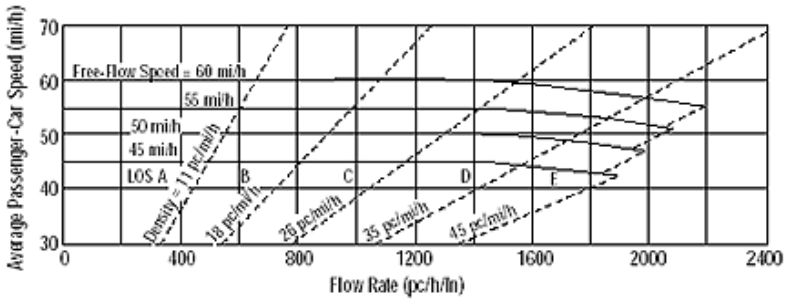
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	430	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	241
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.4
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*226.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.00*
Bicycle level of service (Exhibit 15-4)	*F*

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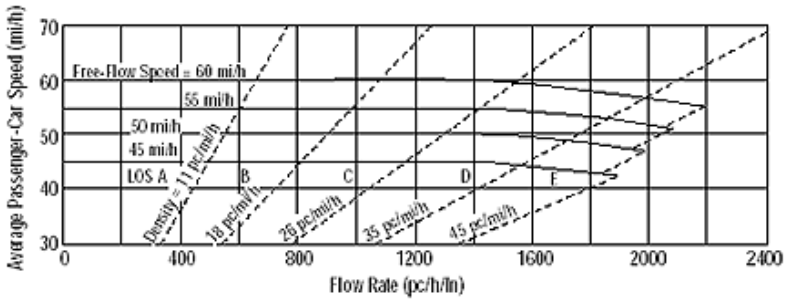
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	450	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	252
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*236.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.02*
Bicycle level of service (Exhibit 15-4)	*F*

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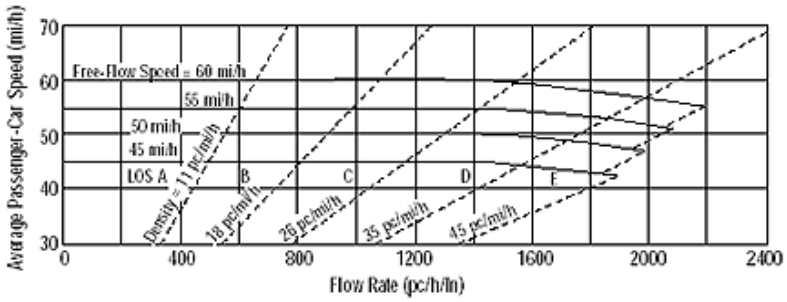
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	680	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	254
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*238.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.03*
Bicycle level of service (Exhibit 15-4)	*F*

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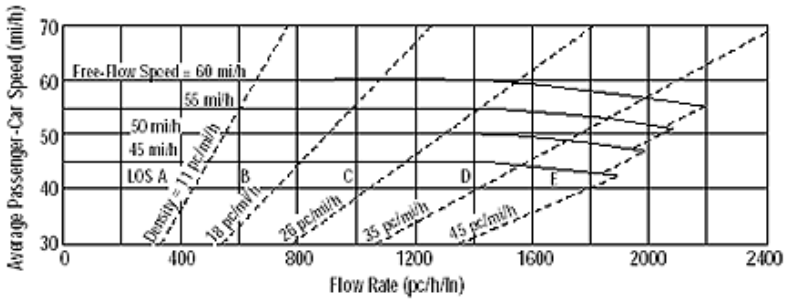
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1230	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	459
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*431.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.33*
Bicycle level of service (Exhibit 15-4)	*F*

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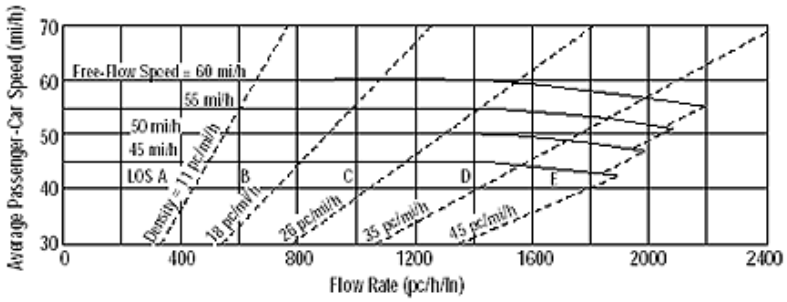
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1250	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	700
Speed, S (mi/h)	55.0
D (pc/mi/ln)	12.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*657.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.54*
Bicycle level of service (Exhibit 15-4)	*F*

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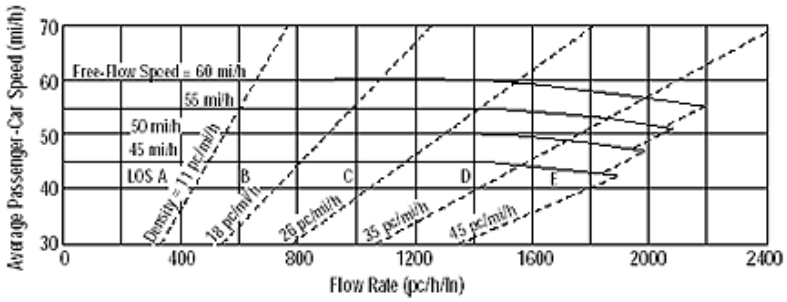
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1250	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	700
Speed, S (mi/h)	55.0
D (pc/mi/ln)	12.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*657.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.54*
Bicycle level of service (Exhibit 15-4)	*F*

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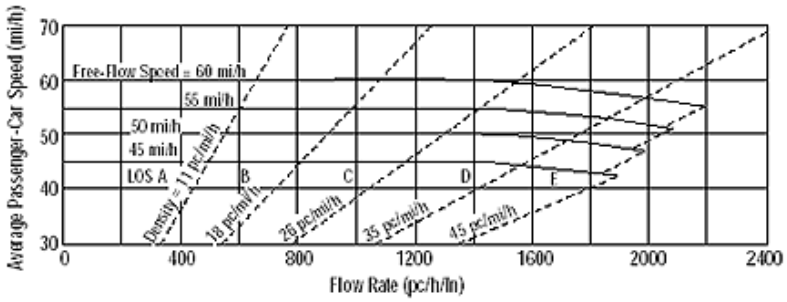
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	830	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	465
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.5
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*436.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.33*
Bicycle level of service (Exhibit 15-4)	*F*

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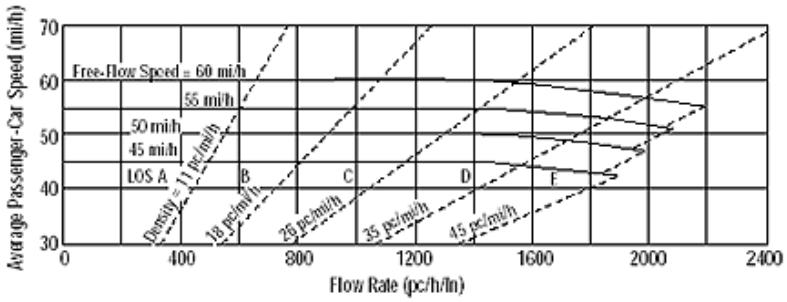
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	580	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	325
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.9
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*305.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.15*
Bicycle level of service (Exhibit 15-4)	*F*

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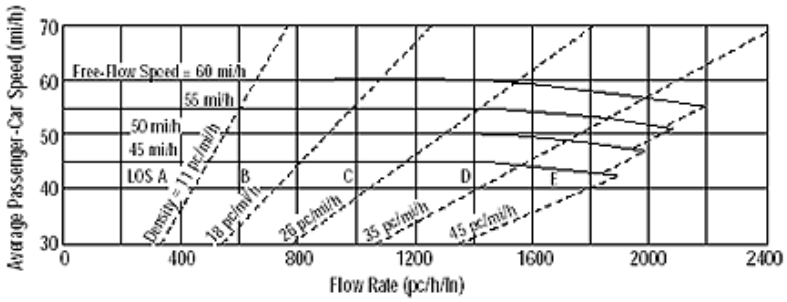
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1170	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	655
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.9
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*615.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.51*
Bicycle level of service (Exhibit 15-4)	*F*

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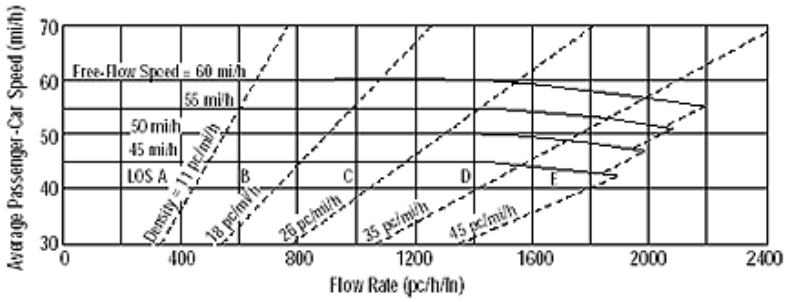
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)		Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	723
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*678.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.56*
Bicycle level of service (Exhibit 15-4)	*F*

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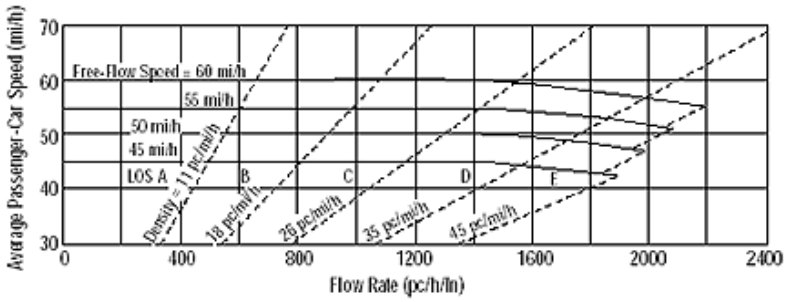
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	330	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	184
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*173.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.87*
Bicycle level of service (Exhibit 15-4)	*F*

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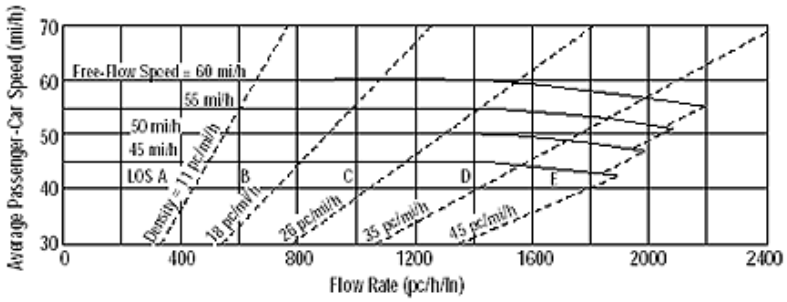
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	360	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	201
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.7
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*189.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.91*
Bicycle level of service (Exhibit 15-4)	*F*

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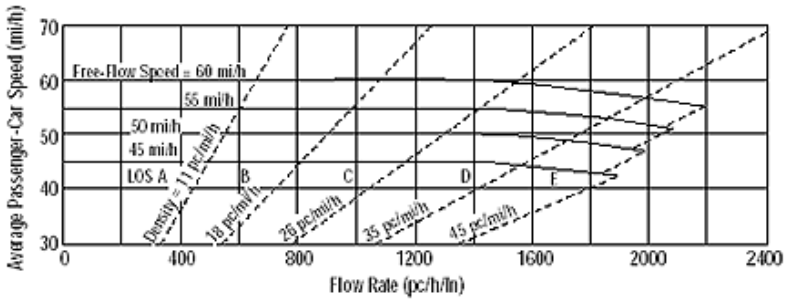
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	600	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	224
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*210.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.96*
Bicycle level of service (Exhibit 15-4)	*F*

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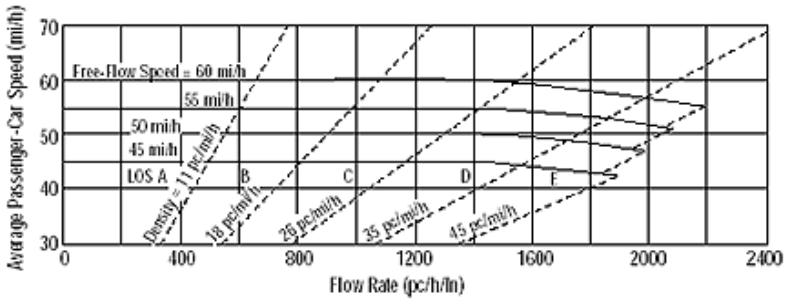
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1500	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	560
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.2
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*526.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.43*
Bicycle level of service (Exhibit 15-4)	*F*

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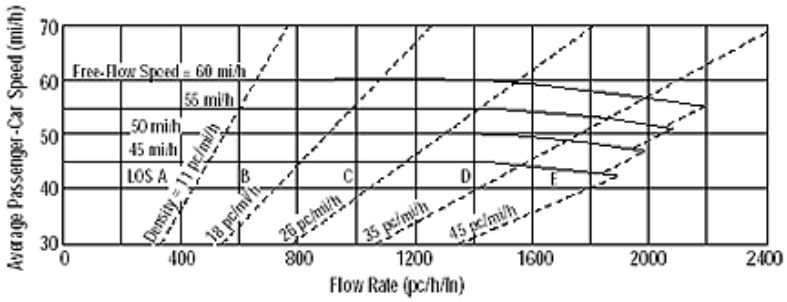
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	580	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	320
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*305.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.84*
Bicycle level of service (Exhibit 15-4)	*E*

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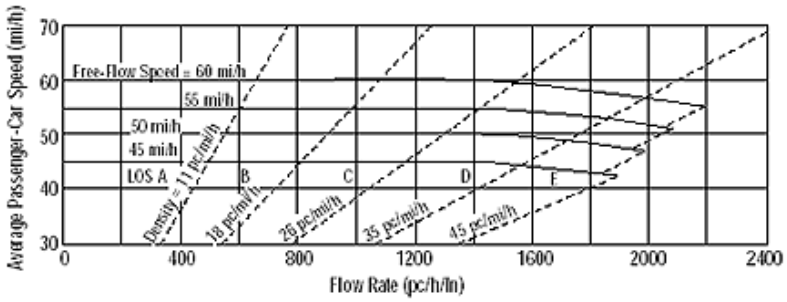
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	510	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	281
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*268.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.78*
Bicycle level of service (Exhibit 15-4)	*E*

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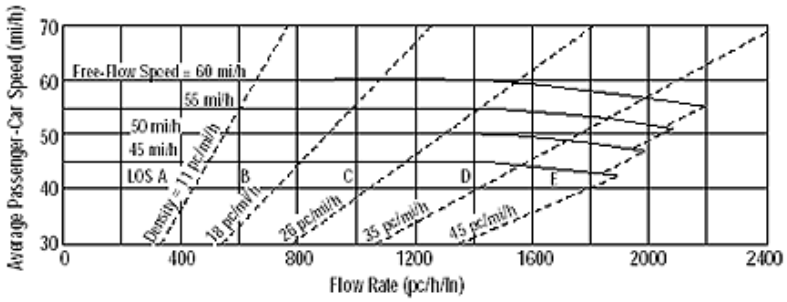
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1200	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	442
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*421.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.00*
Bicycle level of service (Exhibit 15-4)	*E*

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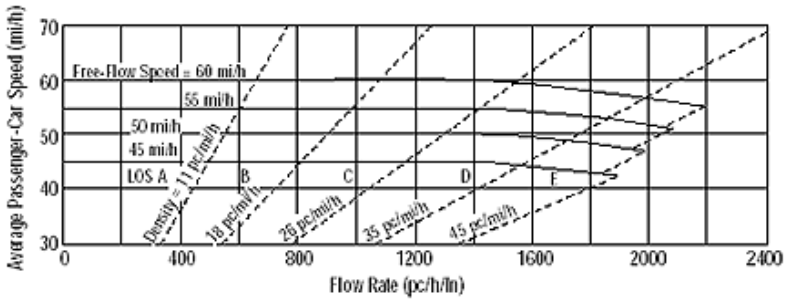
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1160	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	427
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*407.0*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.99*
Bicycle level of service (Exhibit 15-4)	*E*

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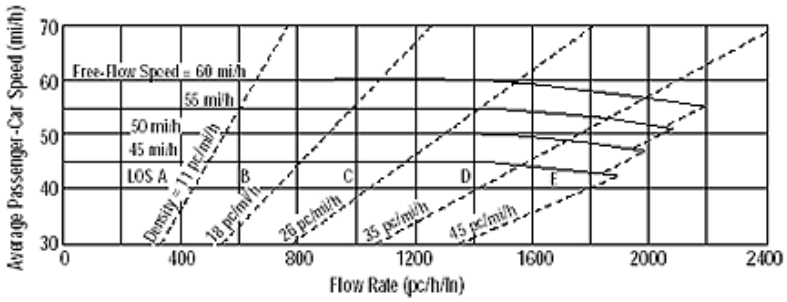
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1320	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	729
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.3
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*694.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.26*
Bicycle level of service (Exhibit 15-4)	*E*

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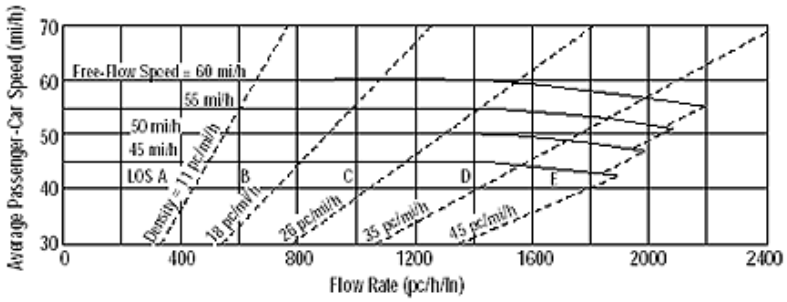
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1390	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	768
Speed, S (mi/h)	55.0
D (pc/mi/ln)	14.0
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*731.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.28*
Bicycle level of service (Exhibit 15-4)	*E*

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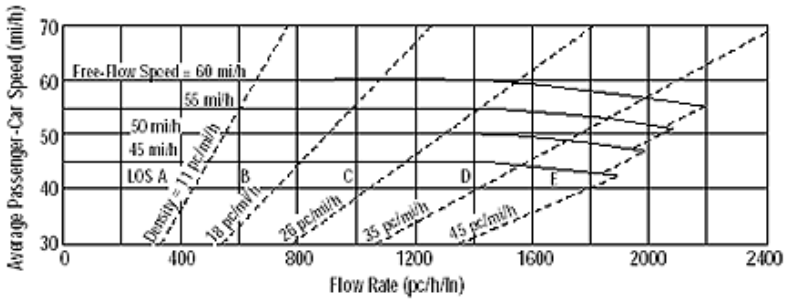
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	820	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	453
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.2
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*431.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.02*
Bicycle level of service (Exhibit 15-4)	*E*

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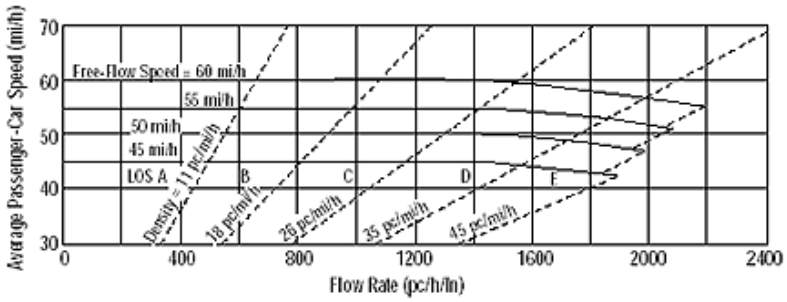
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	910	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	502
Speed, S (mi/h)	55.0
D (pc/mi/ln)	9.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*478.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.07*
Bicycle level of service (Exhibit 15-4)	*E*

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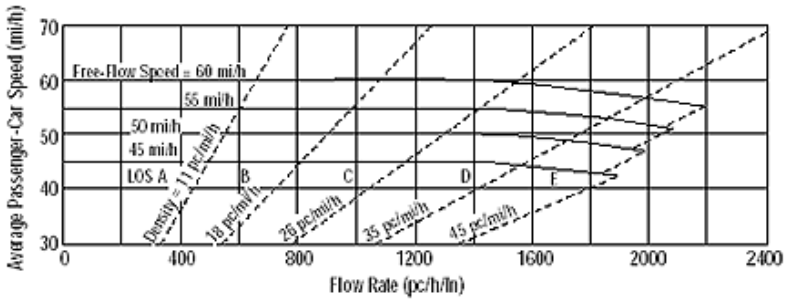
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1370	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	757
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.8
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*721.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.28*
Bicycle level of service (Exhibit 15-4)	*E*

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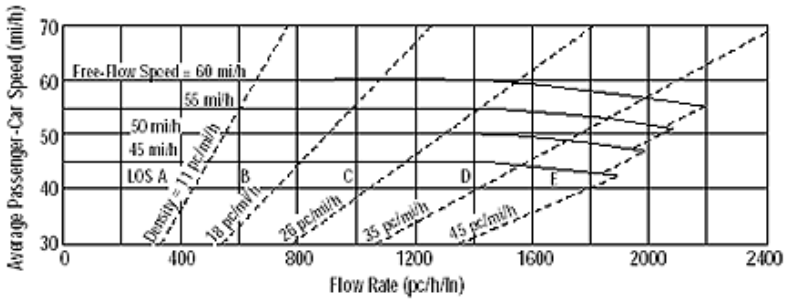
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1360	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	751
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*715.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.27*
Bicycle level of service (Exhibit 15-4)	*E*

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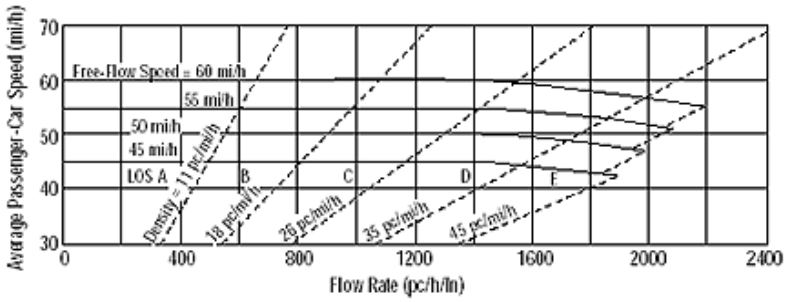
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	430	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	237
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*226.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.69*
Bicycle level of service (Exhibit 15-4)	*E*

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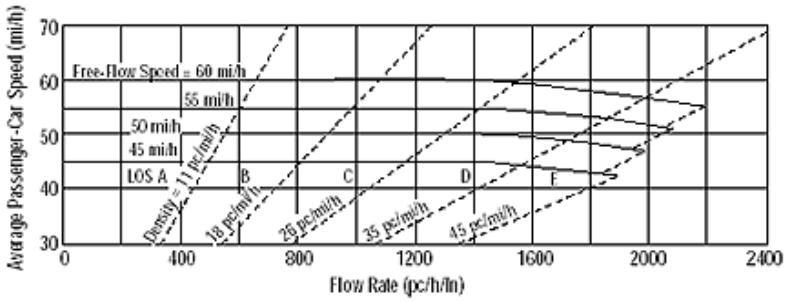
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	370	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	204
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.7
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*194.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.61*
Bicycle level of service (Exhibit 15-4)	*E*

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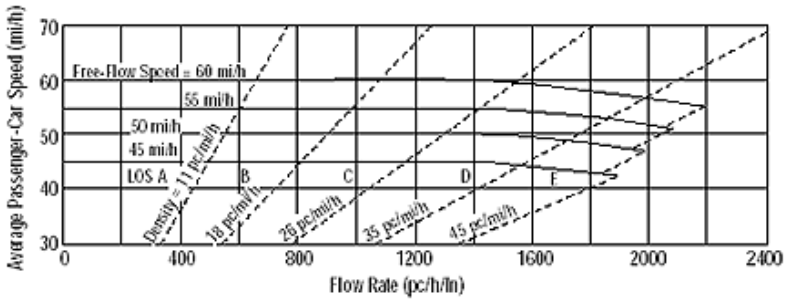
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1530	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	563
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.2
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*536.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.13*
Bicycle level of service (Exhibit 15-4)	*E*

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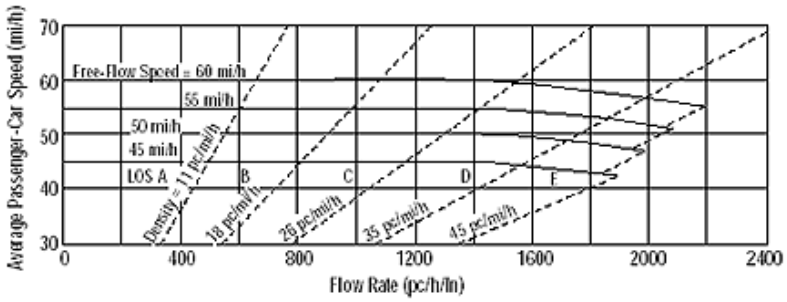
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1280	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	471
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*449.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.04*
Bicycle level of service (Exhibit 15-4)	*E*

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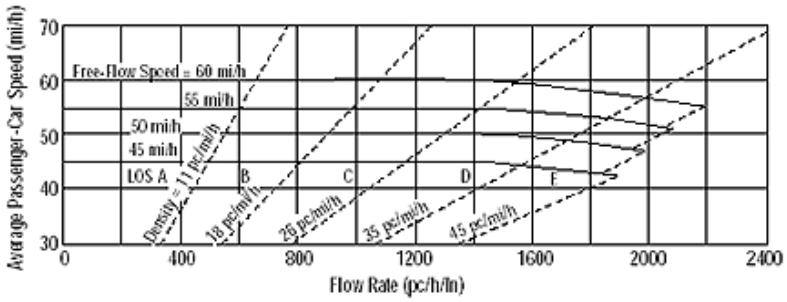
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	510	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	285
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.2
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*268.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.08*
Bicycle level of service (Exhibit 15-4)	*F*

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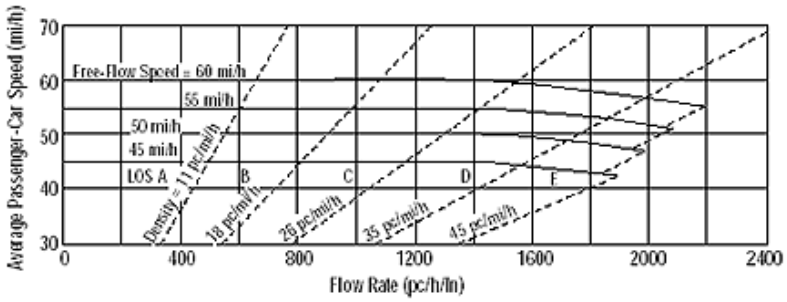
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	580	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	325
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.9
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*305.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.15*
Bicycle level of service (Exhibit 15-4)	*F*

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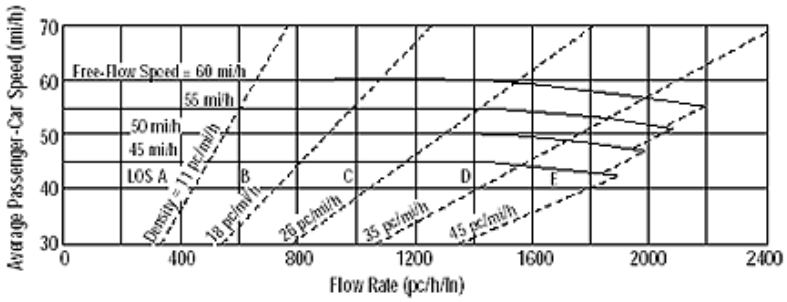
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	680	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	254
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*238.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.03*
Bicycle level of service (Exhibit 15-4)	*F*

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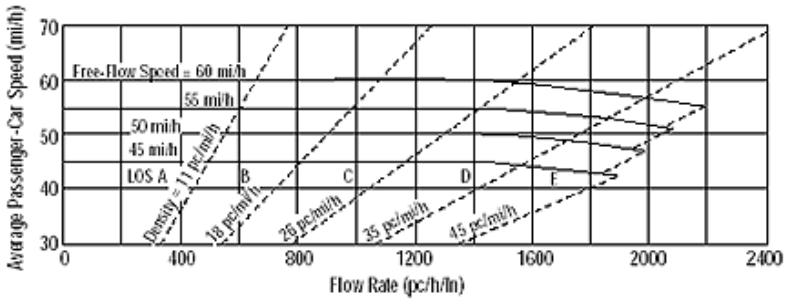
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1170	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	437
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.9
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*410.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.30*
Bicycle level of service (Exhibit 15-4)	*F*

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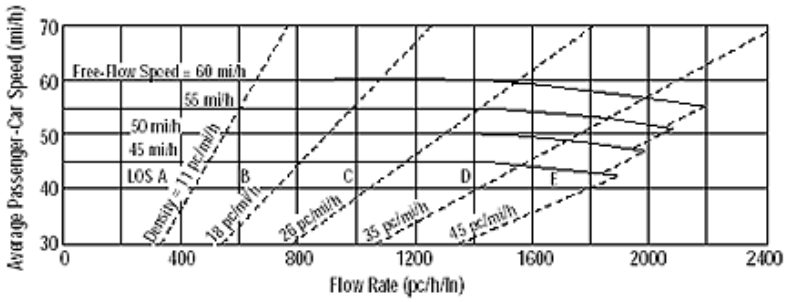
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	400	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	224
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*210.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.96*
Bicycle level of service (Exhibit 15-4)	*F*

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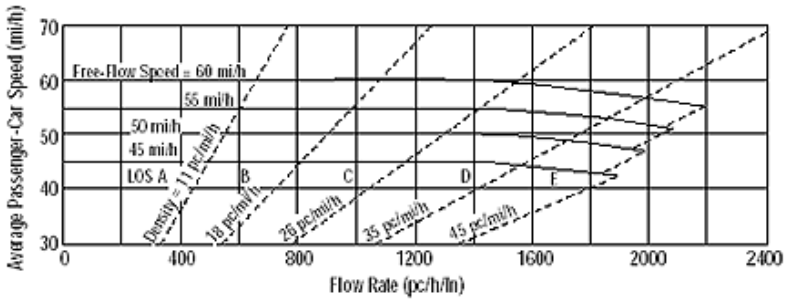
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	650	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	364
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*342.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.21*
Bicycle level of service (Exhibit 15-4)	*F*

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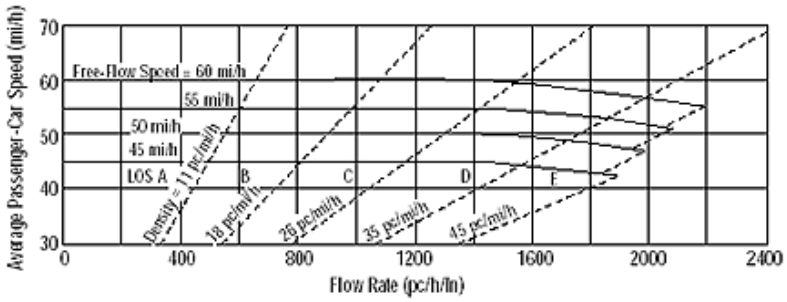
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	150	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	84
Speed, S (mi/h)	55.0
D (pc/mi/ln)	1.5
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*78.9*

Effective width, W_v (Eq. 15-29) ft	*28.50*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.28*
Bicycle level of service (Exhibit 15-4)	*D*

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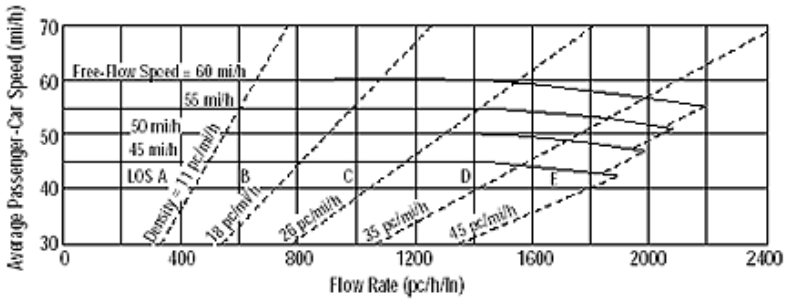
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	270	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	151
Speed, S (mi/h)	55.0
D (pc/mi/ln)	2.7
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*142.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.76*
Bicycle level of service (Exhibit 15-4)	*F*

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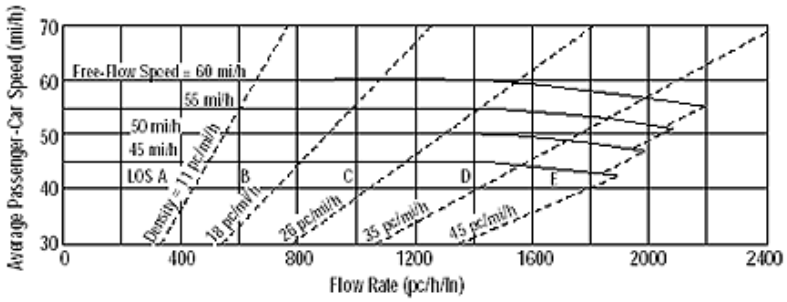
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1010	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	566
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*531.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.43*
Bicycle level of service (Exhibit 15-4)	*F*

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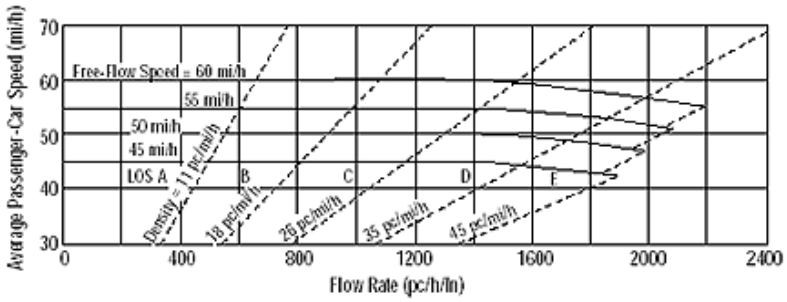
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1110	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	622
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.3
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*584.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.48*
Bicycle level of service (Exhibit 15-4)	*F*

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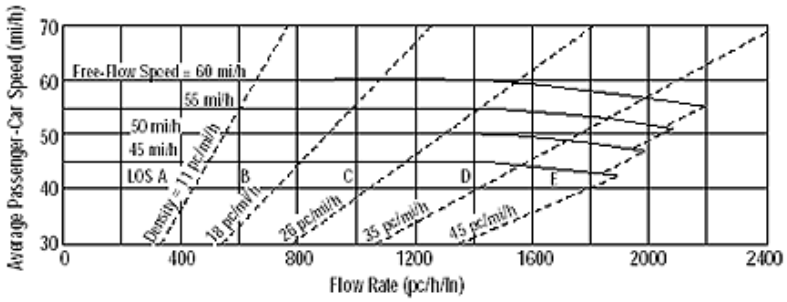
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	350	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	196
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*184.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.89*
Bicycle level of service (Exhibit 15-4)	*F*

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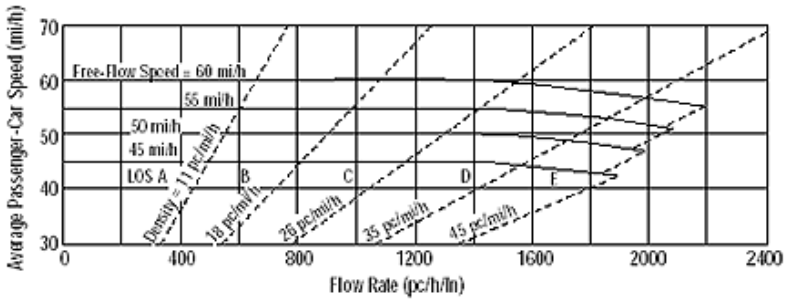
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	450	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	252
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*236.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.02*
Bicycle level of service (Exhibit 15-4)	*F*

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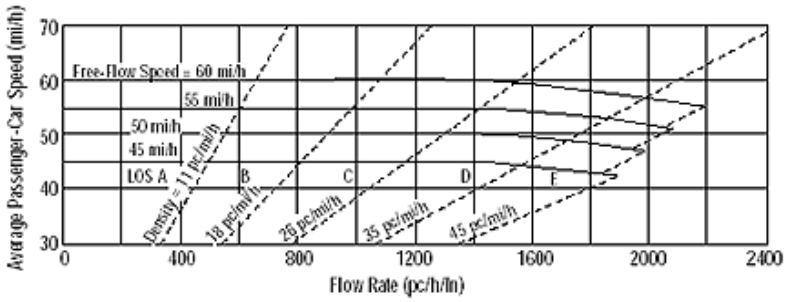
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	580	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	216
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.9
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*203.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.95*
Bicycle level of service (Exhibit 15-4)	*F*

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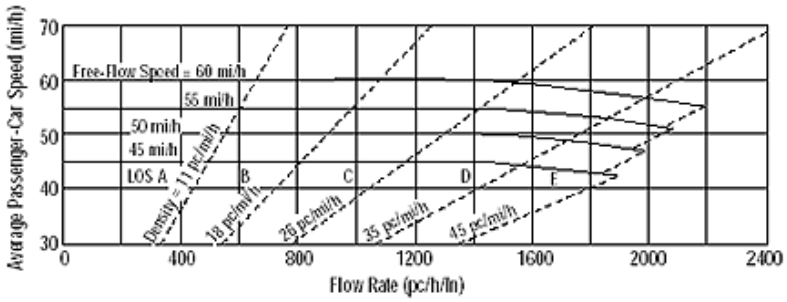
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1410	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	526
Speed, S (mi/h)	55.0
D (pc/mi/ln)	9.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*494.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.40*
Bicycle level of service (Exhibit 15-4)	*F*

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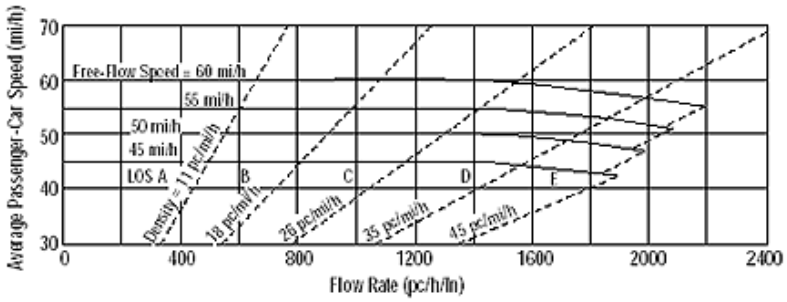
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	760	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	420
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*400.0*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.98*
Bicycle level of service (Exhibit 15-4)	*E*

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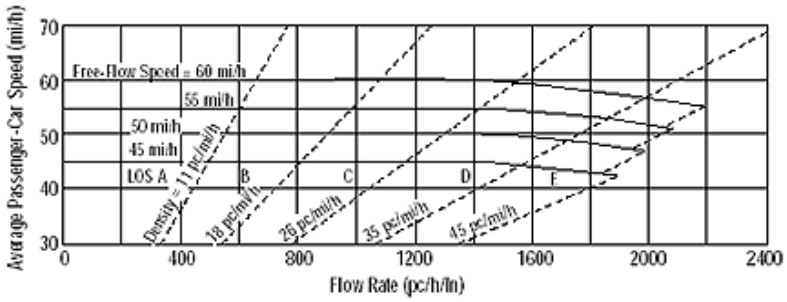
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	610	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	337
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*321.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.87*
Bicycle level of service (Exhibit 15-4)	*E*

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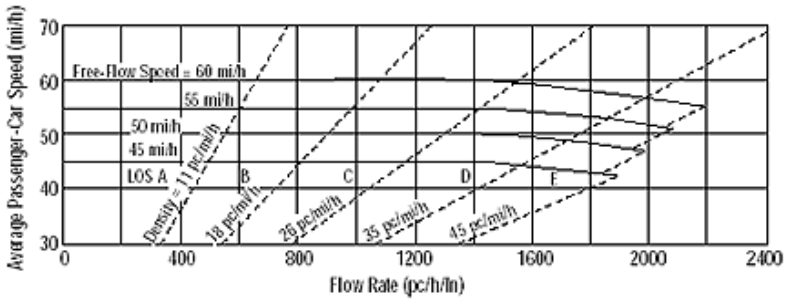
MULTILANE HIGHWAYS WORKSHEET(Direct 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1130	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	416
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*396.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.97*
Bicycle level of service (Exhibit 15-4)	*E*

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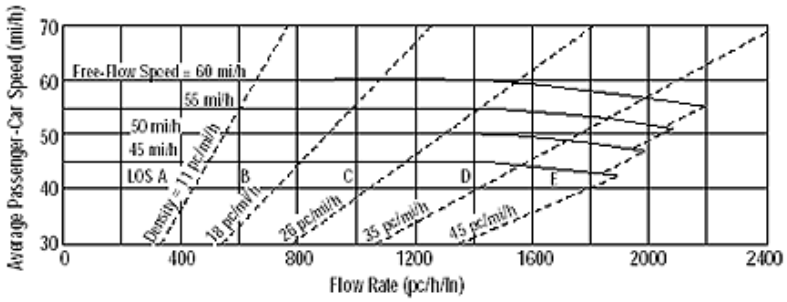
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1090	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	401
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*382.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.96*
Bicycle level of service (Exhibit 15-4)	*E*

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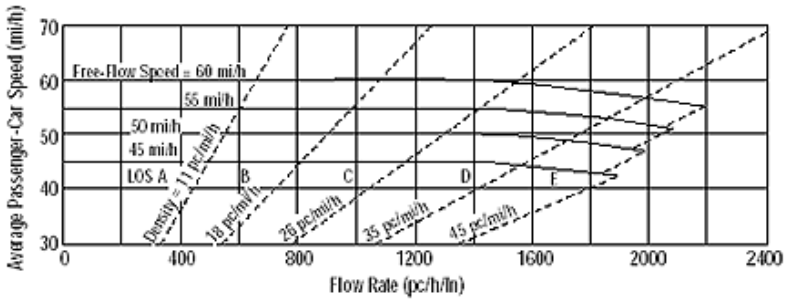
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	760	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	420
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*400.0*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.98*
Bicycle level of service (Exhibit 15-4)	*E*

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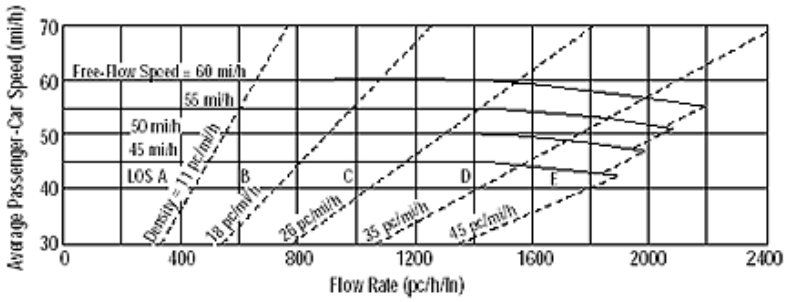
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	590	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	326
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.9
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*310.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.85*
Bicycle level of service (Exhibit 15-4)	*E*

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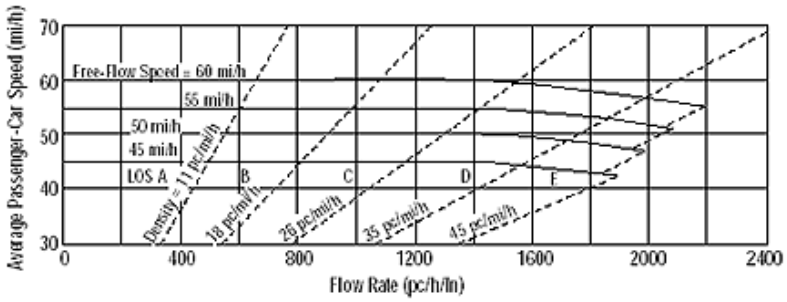
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	330	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	182
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*173.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.56*
Bicycle level of service (Exhibit 15-4)	*E*

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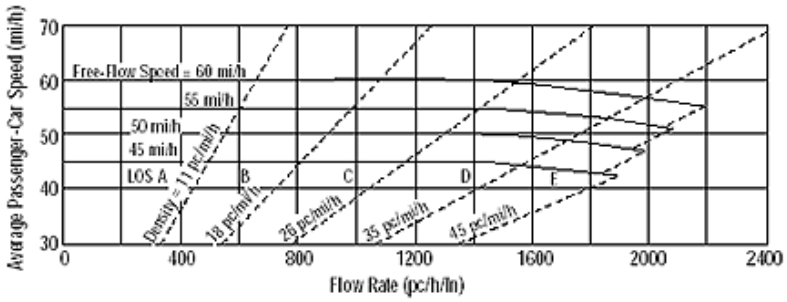
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	190	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	105
Speed, S (mi/h)	55.0
D (pc/mi/ln)	1.9
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*100.0*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.28*
Bicycle level of service (Exhibit 15-4)	*D*

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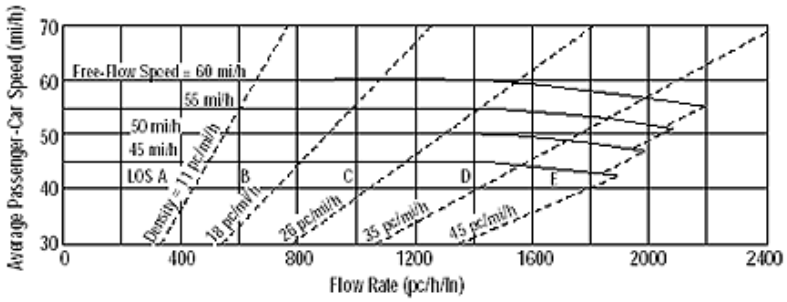
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1160	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	641
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*610.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.19*
Bicycle level of service (Exhibit 15-4)	*E*

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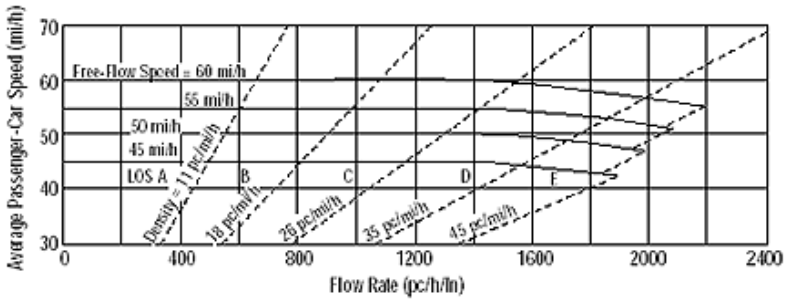
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)		Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	574
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.4
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*547.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.14*
Bicycle level of service (Exhibit 15-4)	*E*

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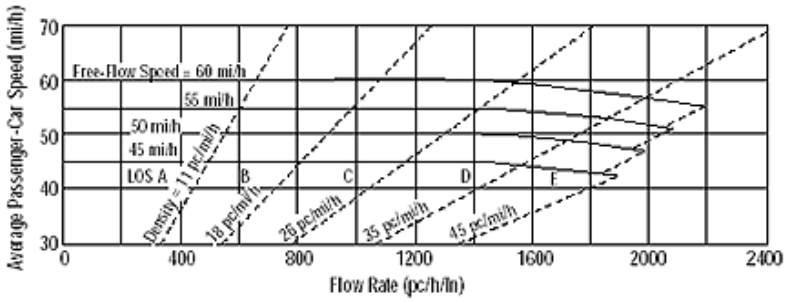
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	530	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	292
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*278.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.80*
Bicycle level of service (Exhibit 15-4)	*E*

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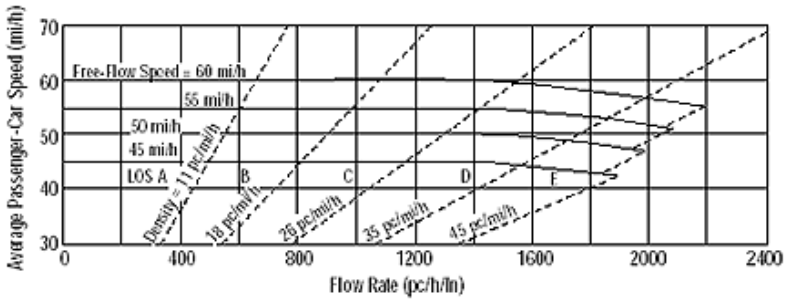
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	370	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	204
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.7
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*194.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.61*
Bicycle level of service (Exhibit 15-4)	*E*

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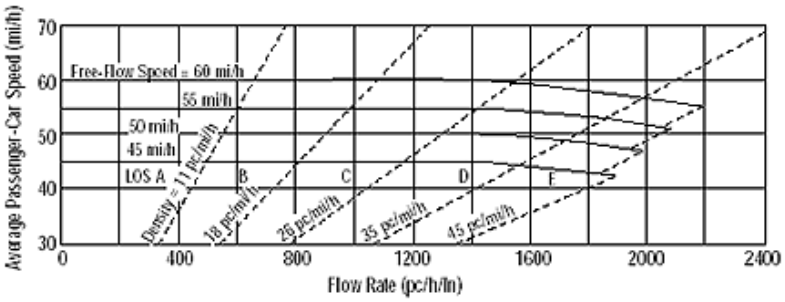
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1490	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	548
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*522.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.11*
Bicycle level of service (Exhibit 15-4)	*E*

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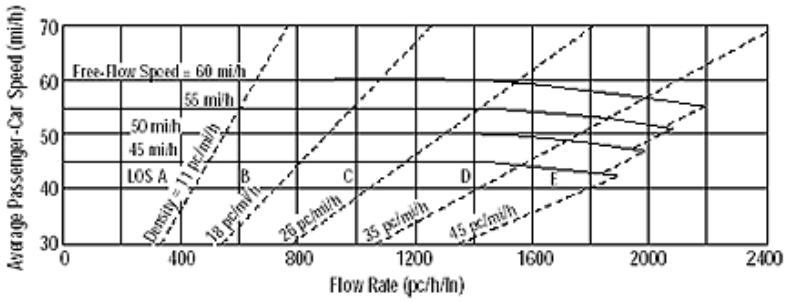
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1170	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	431
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*410.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.99*
Bicycle level of service (Exhibit 15-4)	*E*

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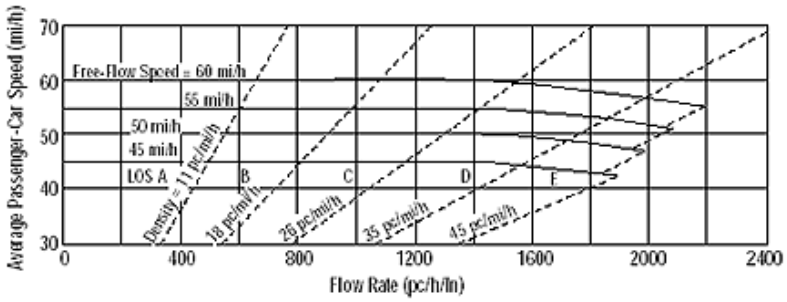
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	350	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	196
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*184.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.89*
Bicycle level of service (Exhibit 15-4)	*F*

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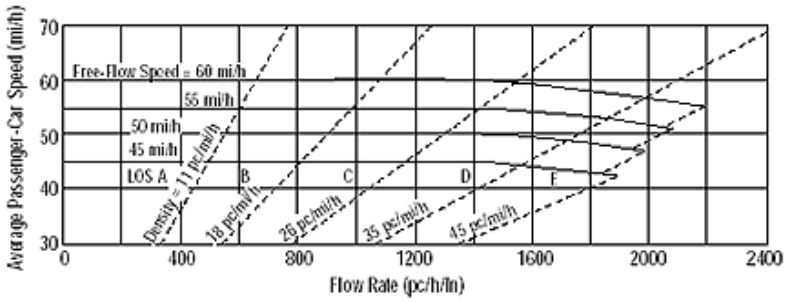
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	370	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	207
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*194.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.92*
Bicycle level of service (Exhibit 15-4)	*F*

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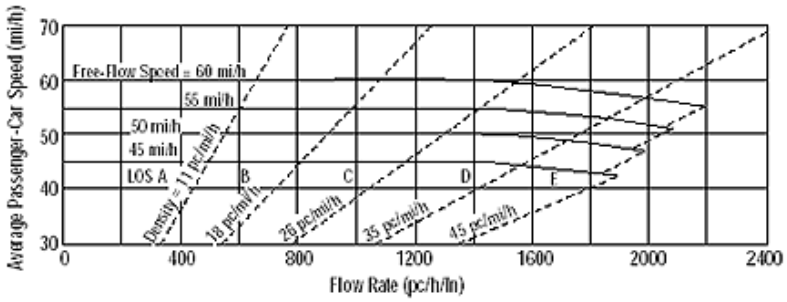
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	680	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	254
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*238.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.03*
Bicycle level of service (Exhibit 15-4)	*F*

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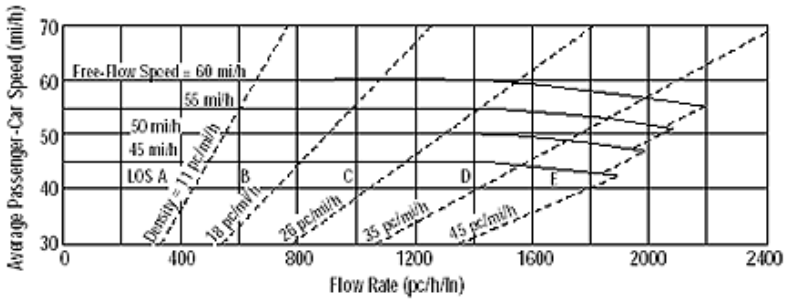
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1170	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	437
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.9
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*410.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.30*
Bicycle level of service (Exhibit 15-4)	*F*

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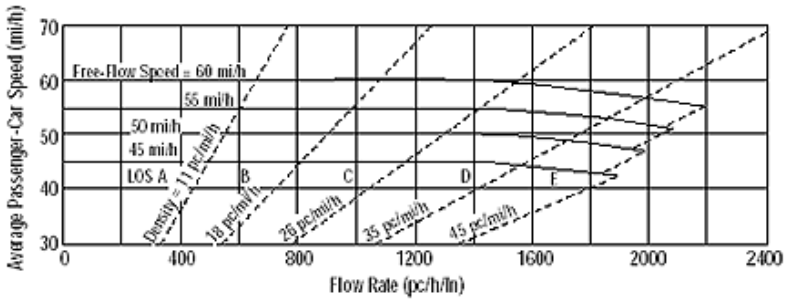
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	430	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	241
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.4
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*226.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.00*
Bicycle level of service (Exhibit 15-4)	*F*

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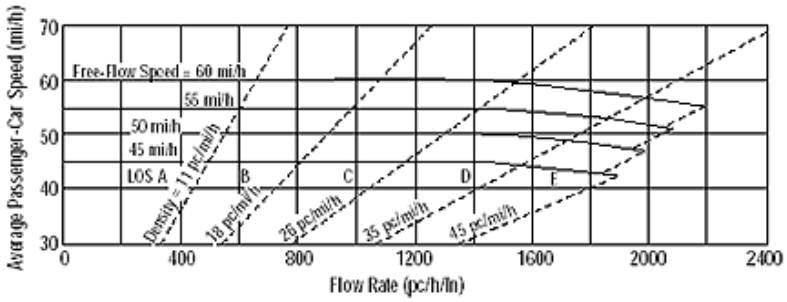
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	700	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	392
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*368.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.24*
Bicycle level of service (Exhibit 15-4)	*F*

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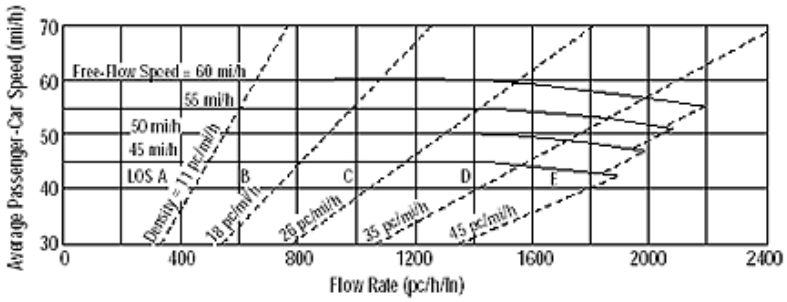
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	150	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	84
Speed, S (mi/h)	55.0
D (pc/mi/ln)	1.5
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*78.9*

Effective width, W_v (Eq. 15-29) ft	*28.50*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.28*
Bicycle level of service (Exhibit 15-4)	*D*

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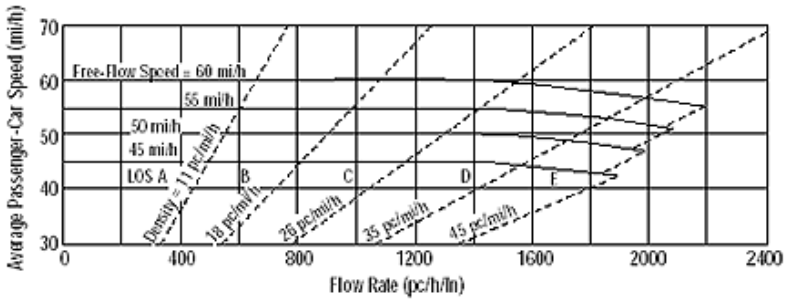
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	280	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	156
Speed, S (mi/h)	55.0
D (pc/mi/ln)	2.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*147.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.78*
Bicycle level of service (Exhibit 15-4)	*F*

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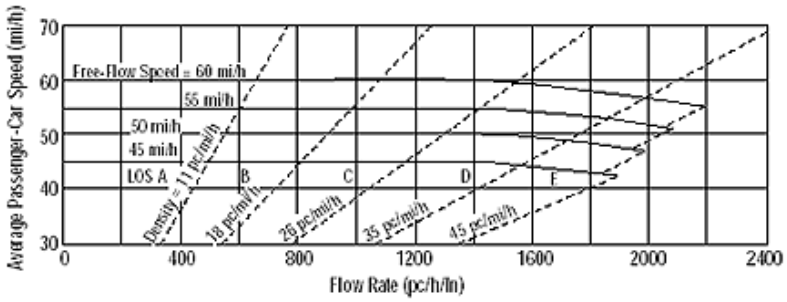
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1080	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	605
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*568.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.46*
Bicycle level of service (Exhibit 15-4)	*F*

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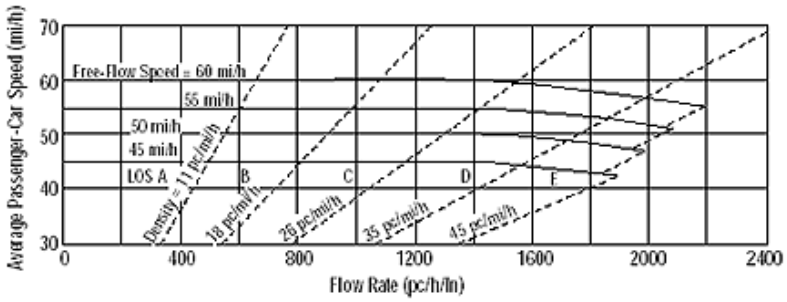
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)		Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	566
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*531.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.43*
Bicycle level of service (Exhibit 15-4)	*F*

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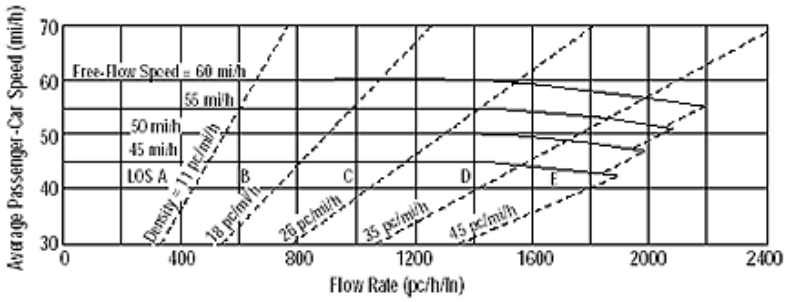
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	290	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	162
Speed, S (mi/h)	55.0
D (pc/mi/ln)	2.9
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*152.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.80*
Bicycle level of service (Exhibit 15-4)	*F*

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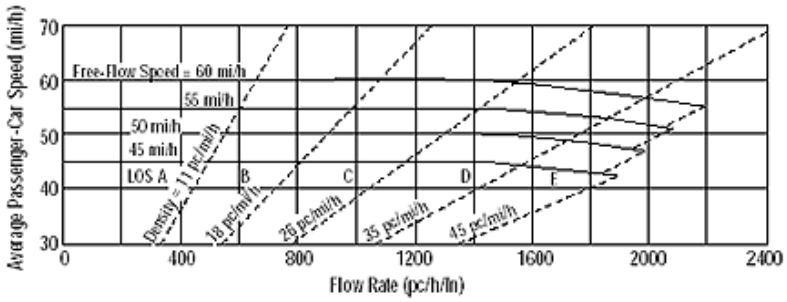
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	320	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	179
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*168.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.85*
Bicycle level of service (Exhibit 15-4)	*F*

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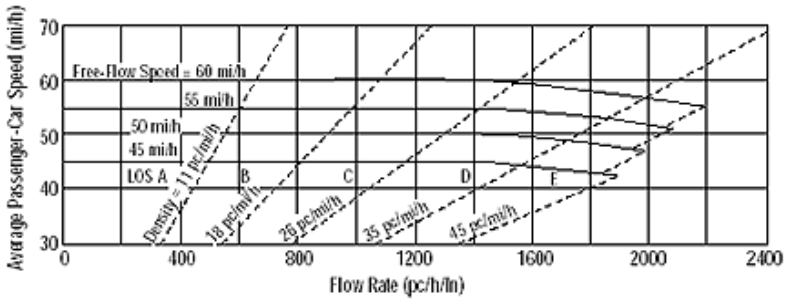
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	580	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	216
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.9
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*203.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.95*
Bicycle level of service (Exhibit 15-4)	*F*

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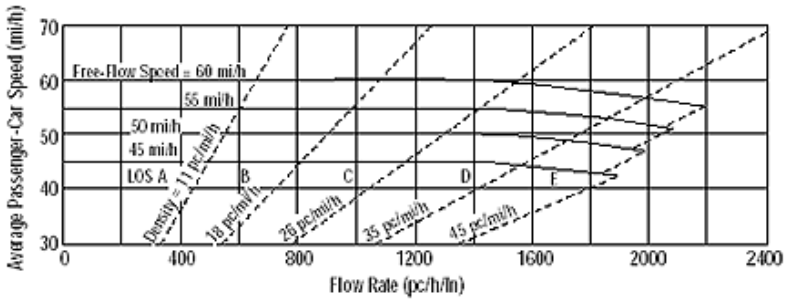
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1440	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	538
Speed, S (mi/h)	55.0
D (pc/mi/ln)	9.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*505.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.41*
Bicycle level of service (Exhibit 15-4)	*F*

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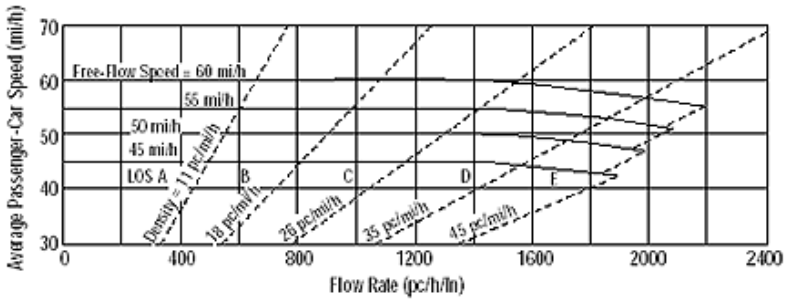
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	500	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	276
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*263.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.77*
Bicycle level of service (Exhibit 15-4)	*E*

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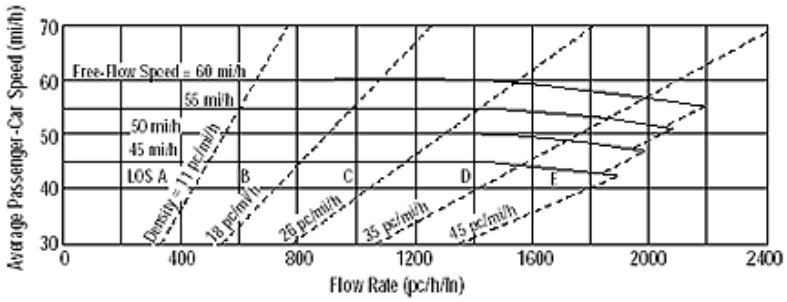
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	400	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	221
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*210.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.65*
Bicycle level of service (Exhibit 15-4)	*E*

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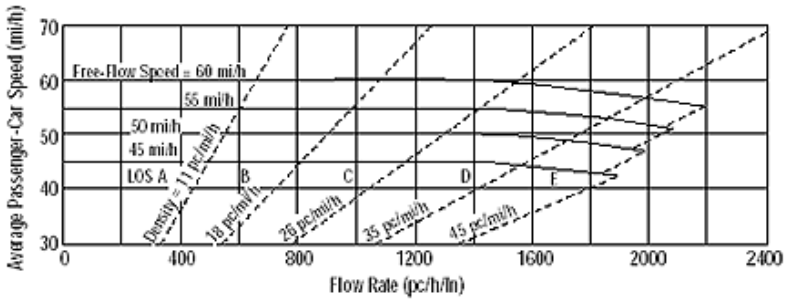
MULTILANE HIGHWAYS WORKSHEET(Direct 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1130	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	416
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*396.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.97*
Bicycle level of service (Exhibit 15-4)	*E*

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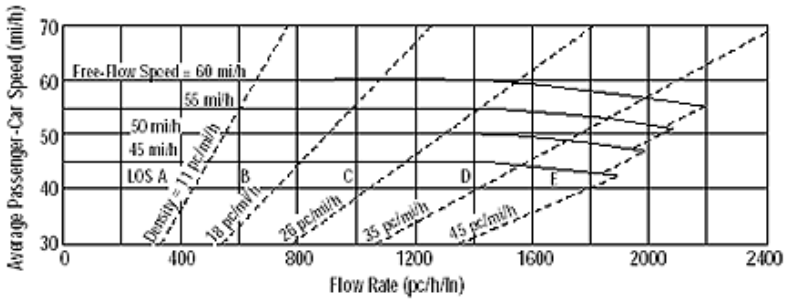
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1090	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	401
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*382.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.96*
Bicycle level of service (Exhibit 15-4)	*E*

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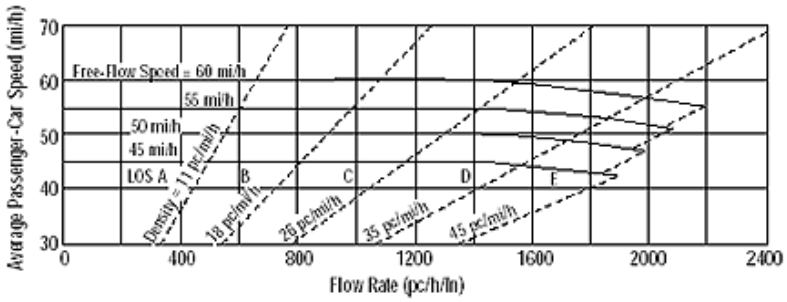
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	800	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	442
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*421.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.00*
Bicycle level of service (Exhibit 15-4)	*E*

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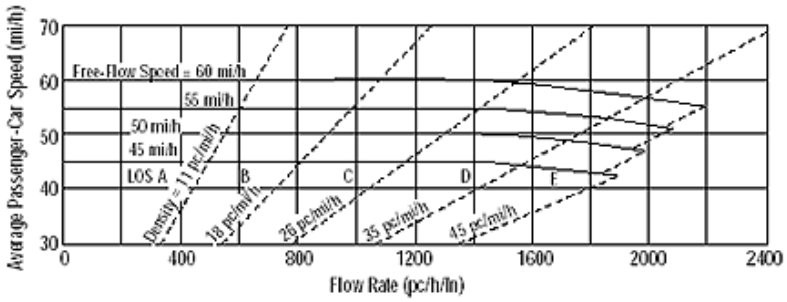
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	630	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	348
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*331.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.88*
Bicycle level of service (Exhibit 15-4)	*E*

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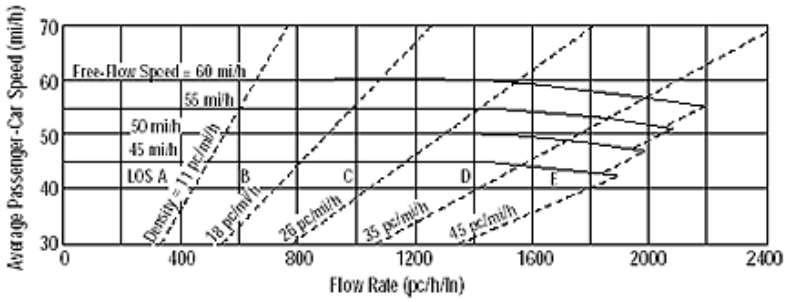
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	360	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	198
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*189.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.60*
Bicycle level of service (Exhibit 15-4)	*E*

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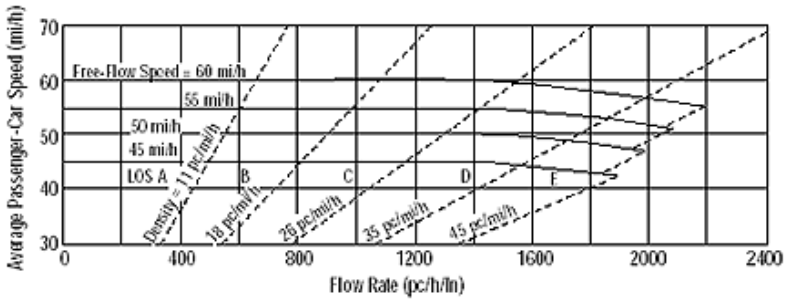
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	190	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	105
Speed, S (mi/h)	55.0
D (pc/mi/ln)	1.9
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*100.0*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.28*
Bicycle level of service (Exhibit 15-4)	*D*

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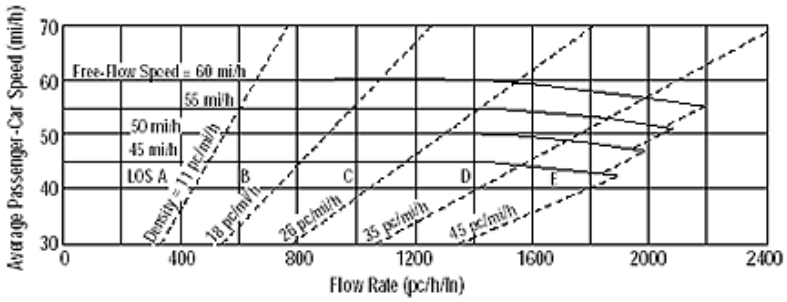
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1100	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	607
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.0+
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*578.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.17*
Bicycle level of service (Exhibit 15-4)	*E*

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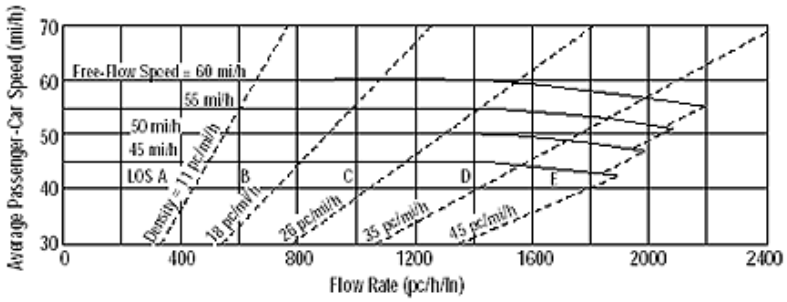
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)		Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	569
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*542.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.13*
Bicycle level of service (Exhibit 15-4)	*E*

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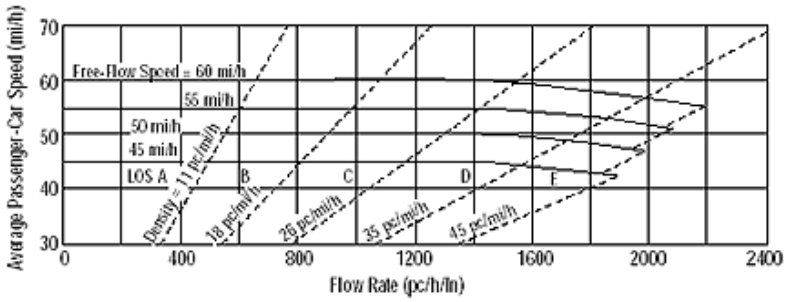
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/EDSS

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	310	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	171
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*163.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.52*
Bicycle level of service (Exhibit 15-4)	*E*

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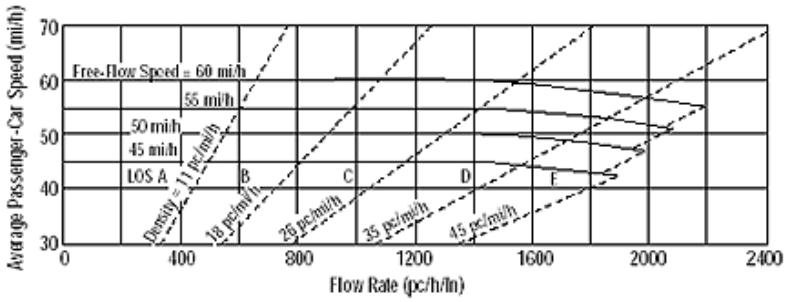
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	6/09/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/EDSS

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	610	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	337
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*321.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.87*
Bicycle level of service (Exhibit 15-4)	*E*

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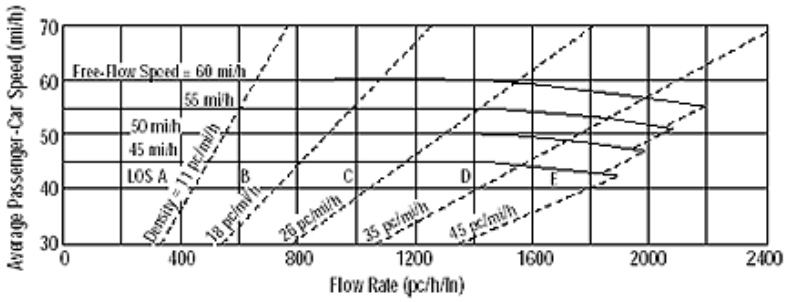
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1490	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	548
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*522.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.11*
Bicycle level of service (Exhibit 15-4)	*E*

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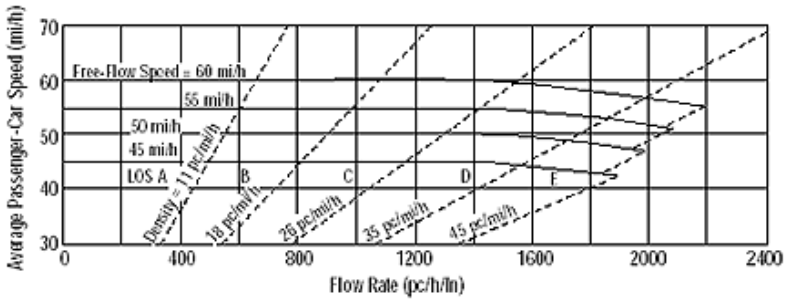
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2022 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1170	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	431
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*410.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.99*
Bicycle level of service (Exhibit 15-4)	*E*

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Leisch Method for Weaving Analysis

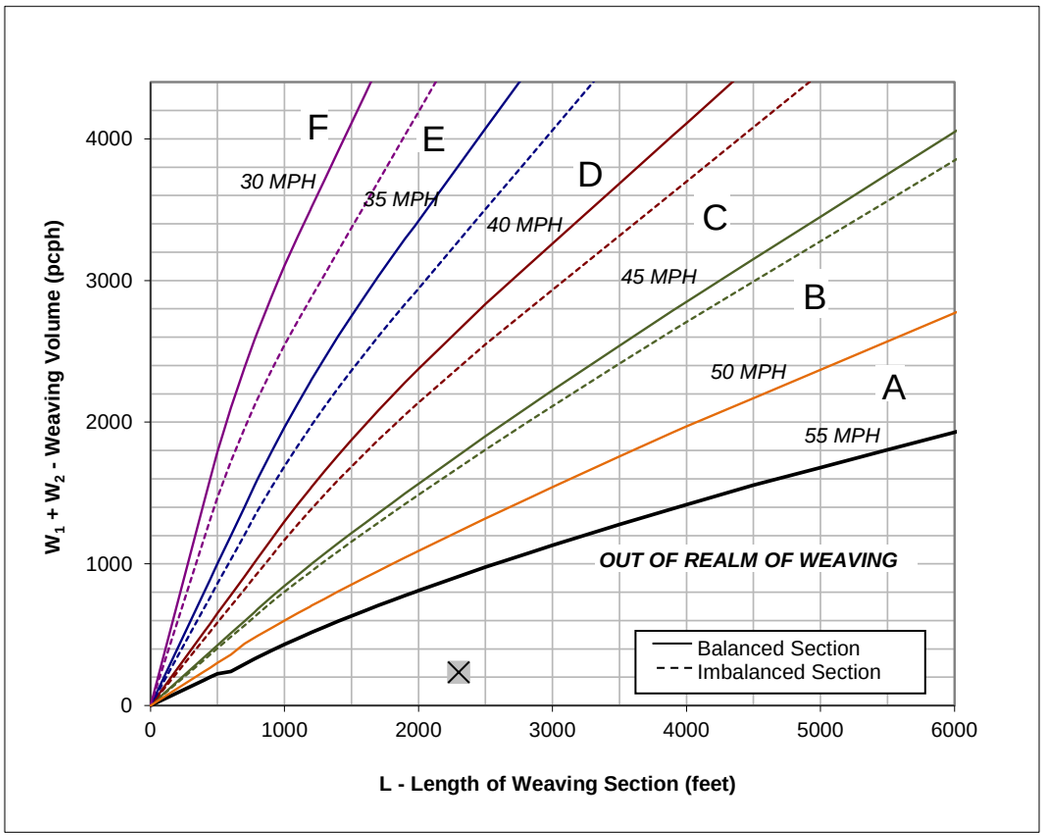
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

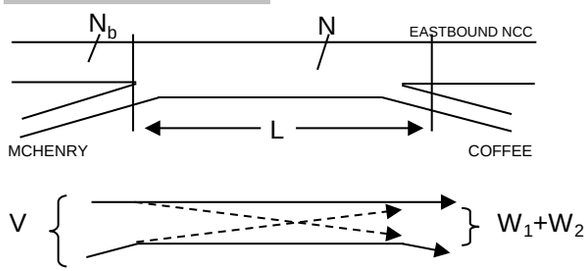
Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	600	Volume (vph)*	130	Volume (vph)*	90
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	639	Volume (pcph)	138	Volume (pcph)	96

Project Information

Project	NCC
Scenario	2022 AM - ALT 1A
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



Figure



Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **65.7**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **160**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

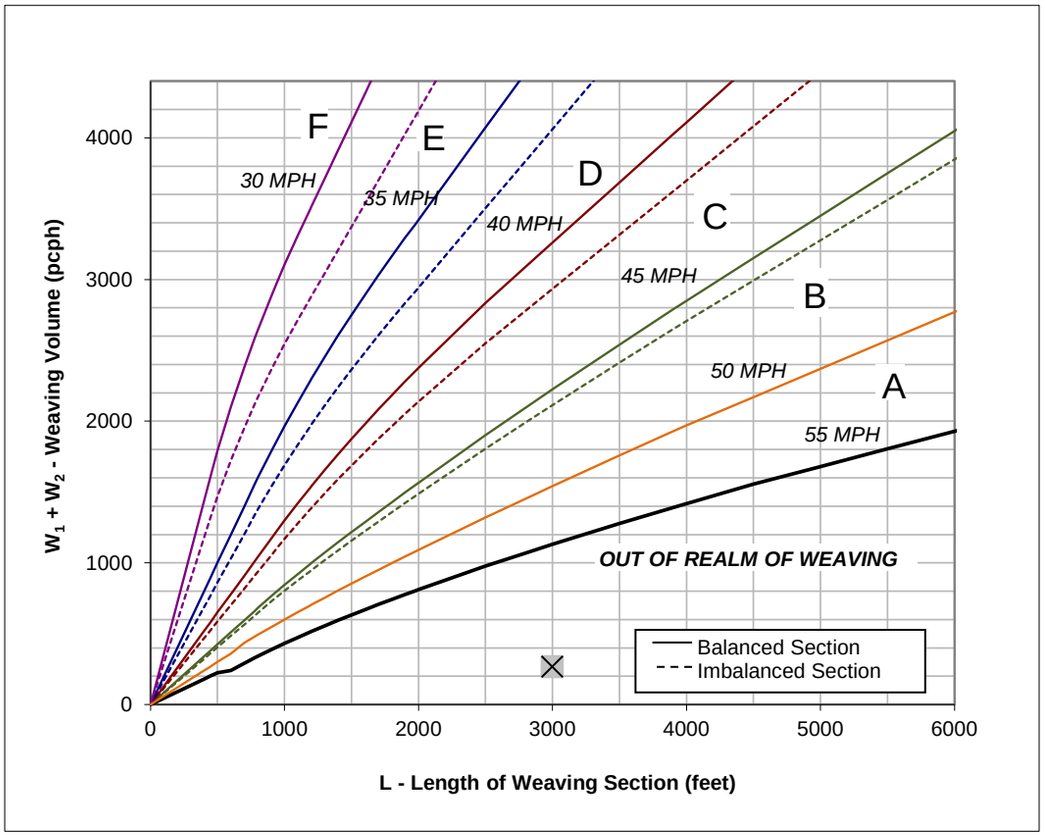
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

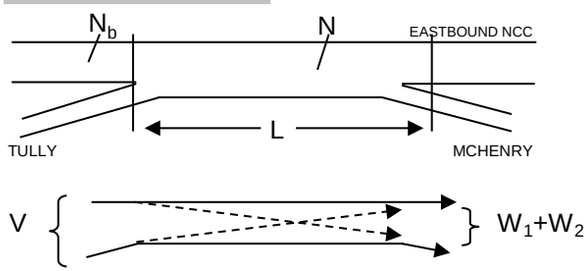
Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	600	Volume (vph)*	120	Volume (vph)*	130
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	639	Volume (pcph)	128	Volume (pcph)	138

Project Information

Project	NCC
Scenario	2022 AM - ALT 1A
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



Figure



Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **65.5**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **160**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

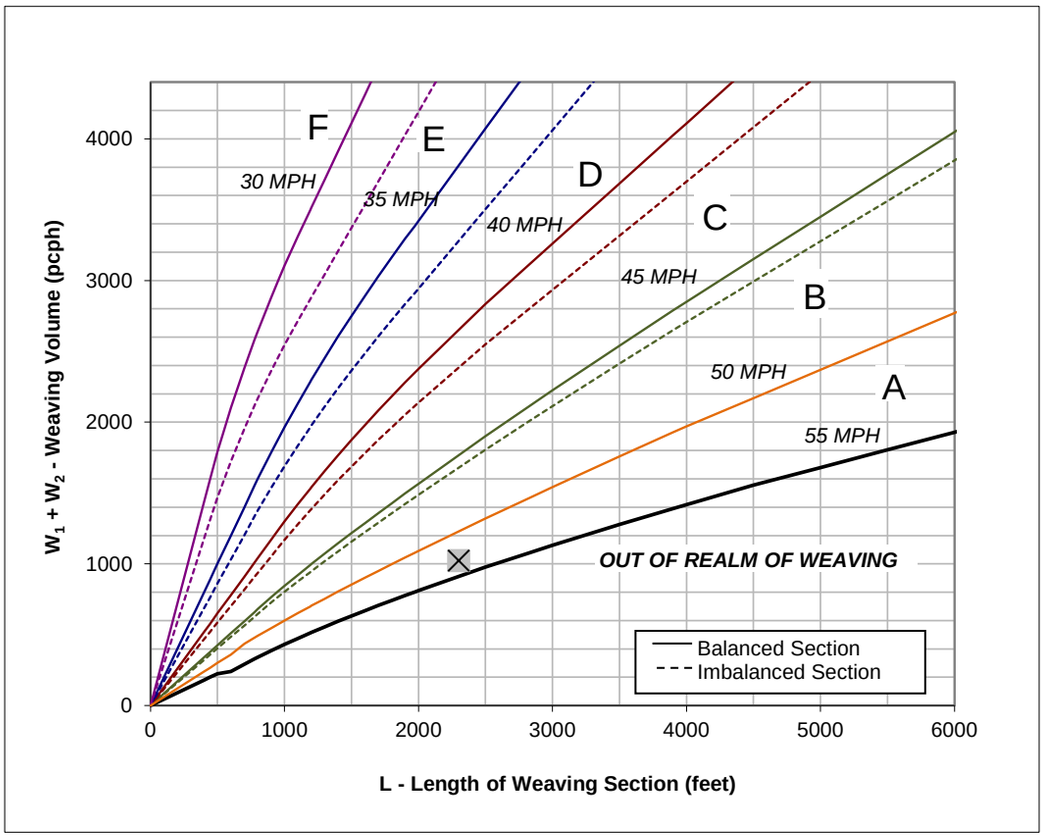
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,650	Volume (vph)*	510	Volume (vph)*	450
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,757	Volume (pcph)	543	Volume (pcph)	479

Project Information

Project	NCC
Scenario	2022 AM - ALT 1A
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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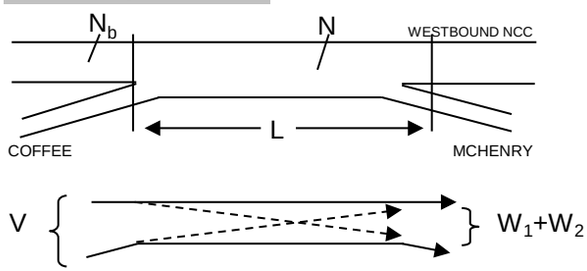


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **53.3**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **439**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

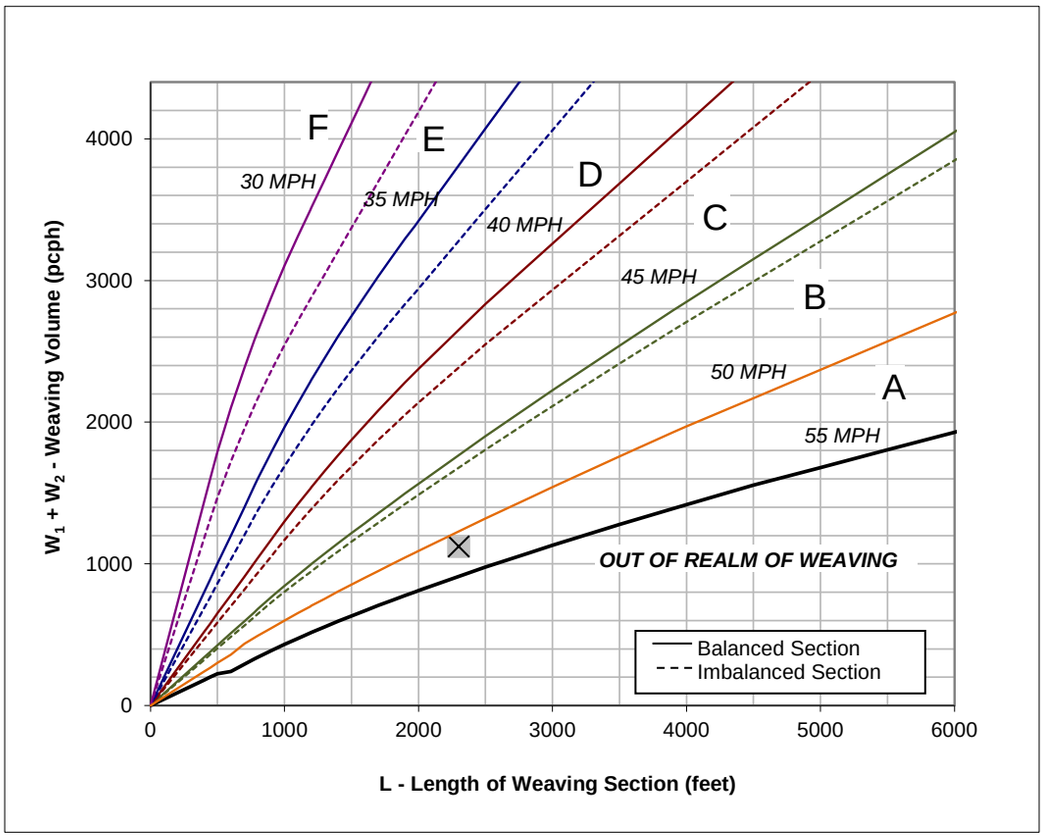
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,730	Volume (vph)*	600	Volume (vph)*	470
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,817	Volume (pcph)	630	Volume (pcph)	494

Project Information

Project	NCC
Scenario	2022 PM - ALT 1A
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



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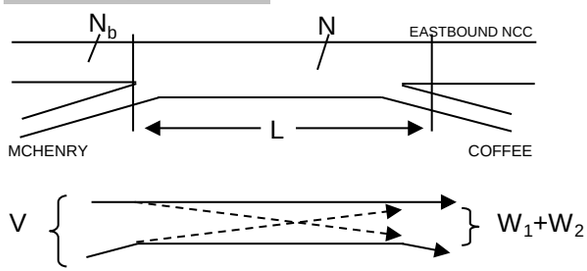


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **51.7**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **454**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

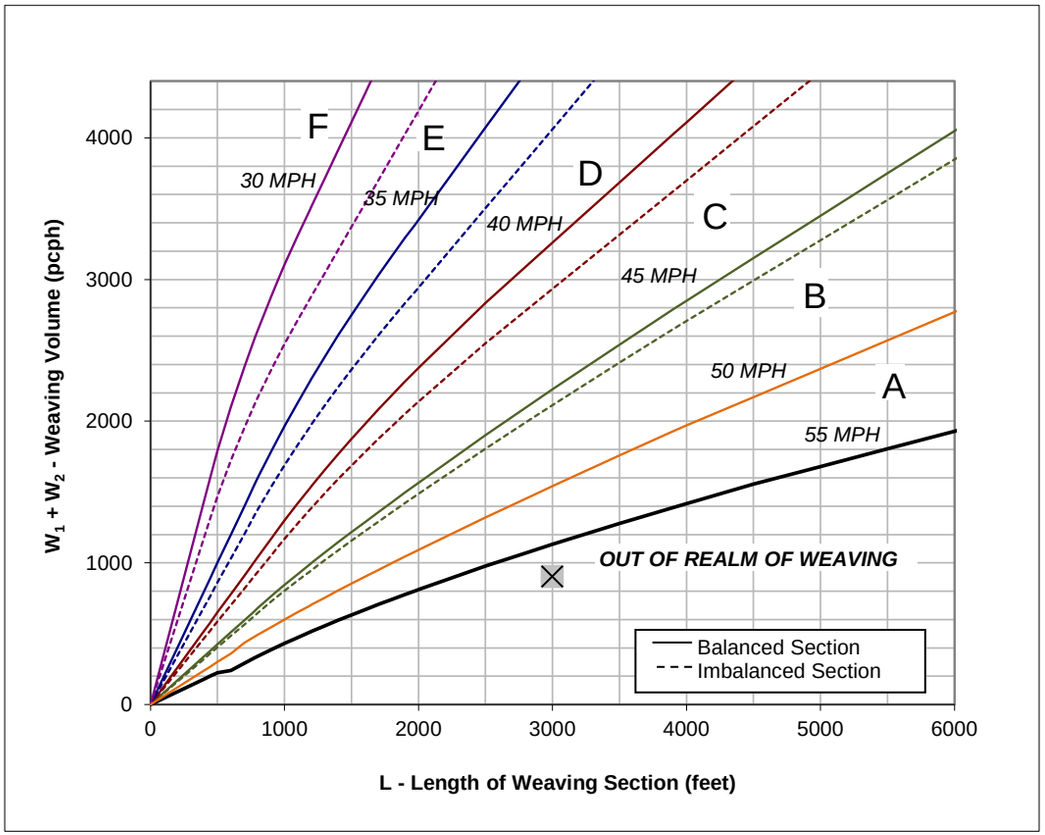
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,530	Volume (vph)*	460	Volume (vph)*	400
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,607	Volume (pcph)	483	Volume (pcph)	420

Project Information

Project	NCC
Scenario	2022 PM - ALT 1A
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



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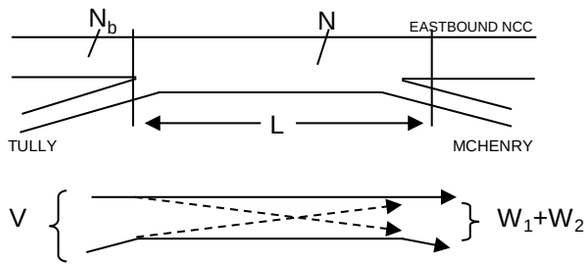


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **57.8**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **402**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

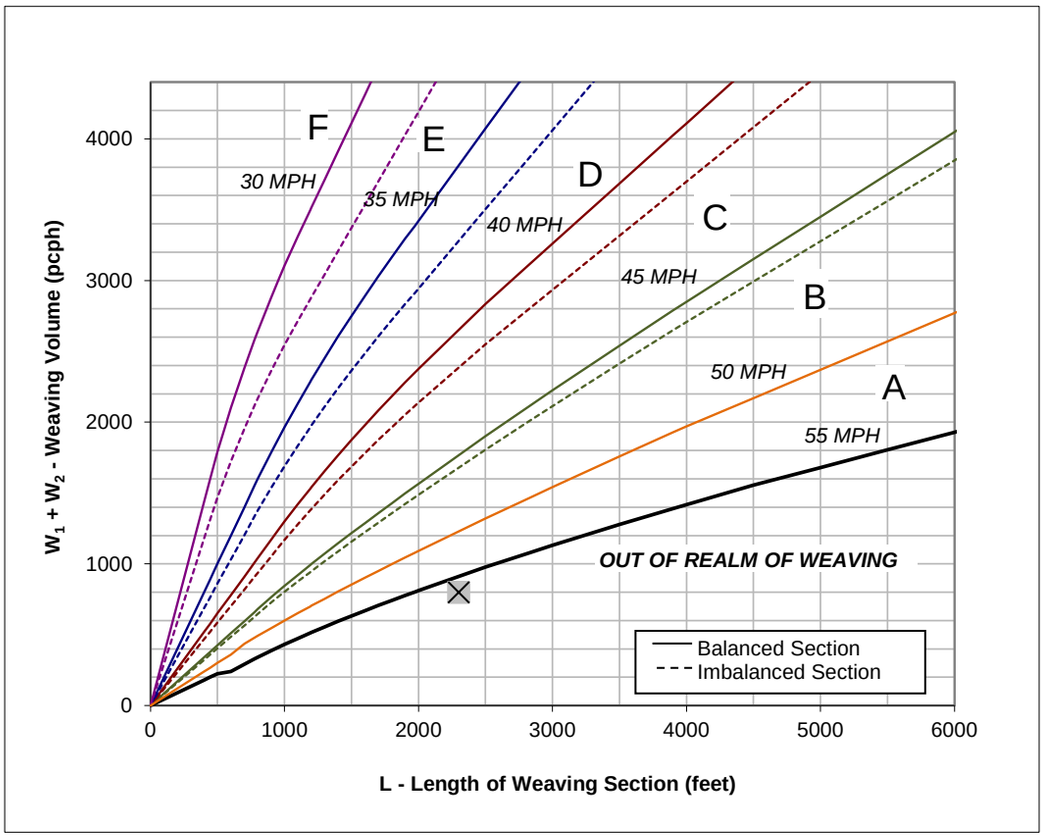
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,390	Volume (vph)*	370	Volume (vph)*	390
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,460	Volume (pcph)	389	Volume (pcph)	410

Project Information

Project	NCC
Scenario	2022 PM - ALT 1A
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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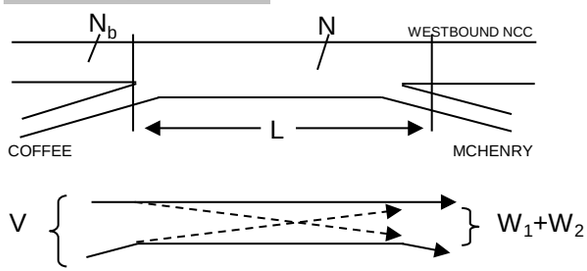


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **56.8**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **365**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

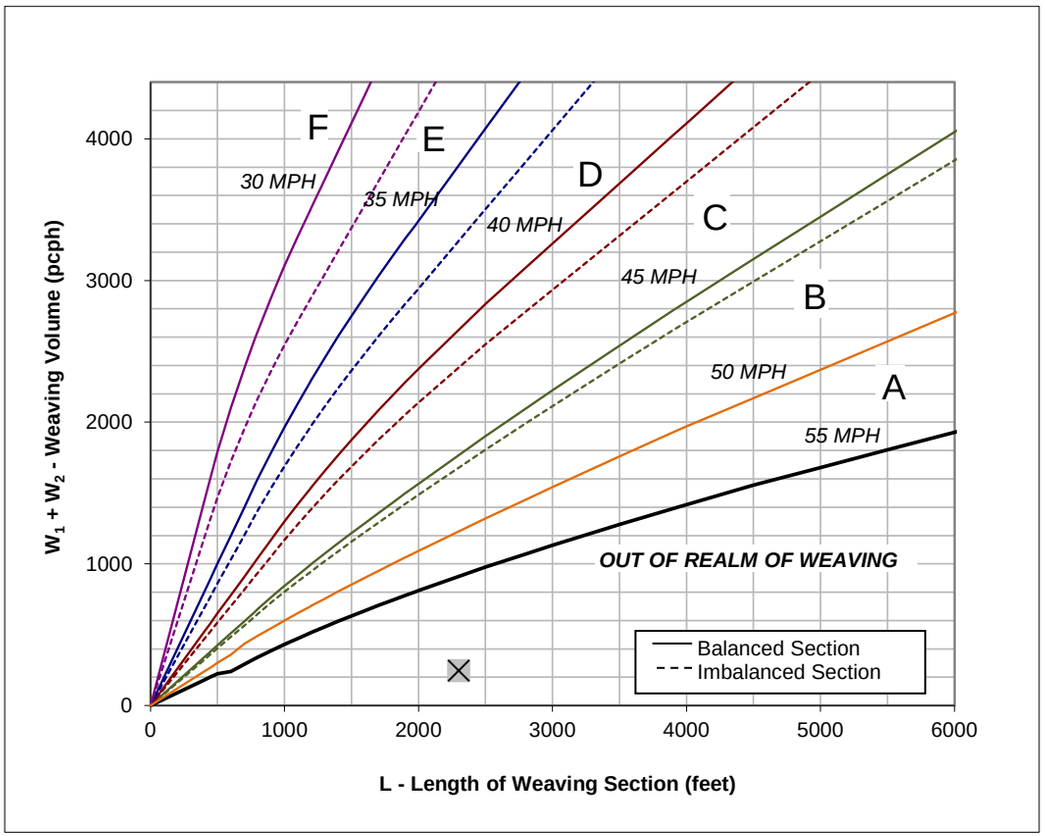
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	600	Volume (vph)*	130	Volume (vph)*	100
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	639	Volume (pcph)	138	Volume (pcph)	107

Project Information

Project	NCC
Scenario	2022 AM - ALT 1B
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



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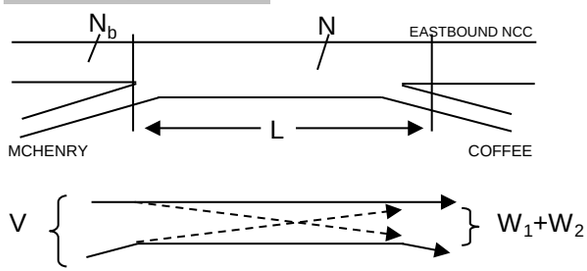


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **65.5**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **160**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

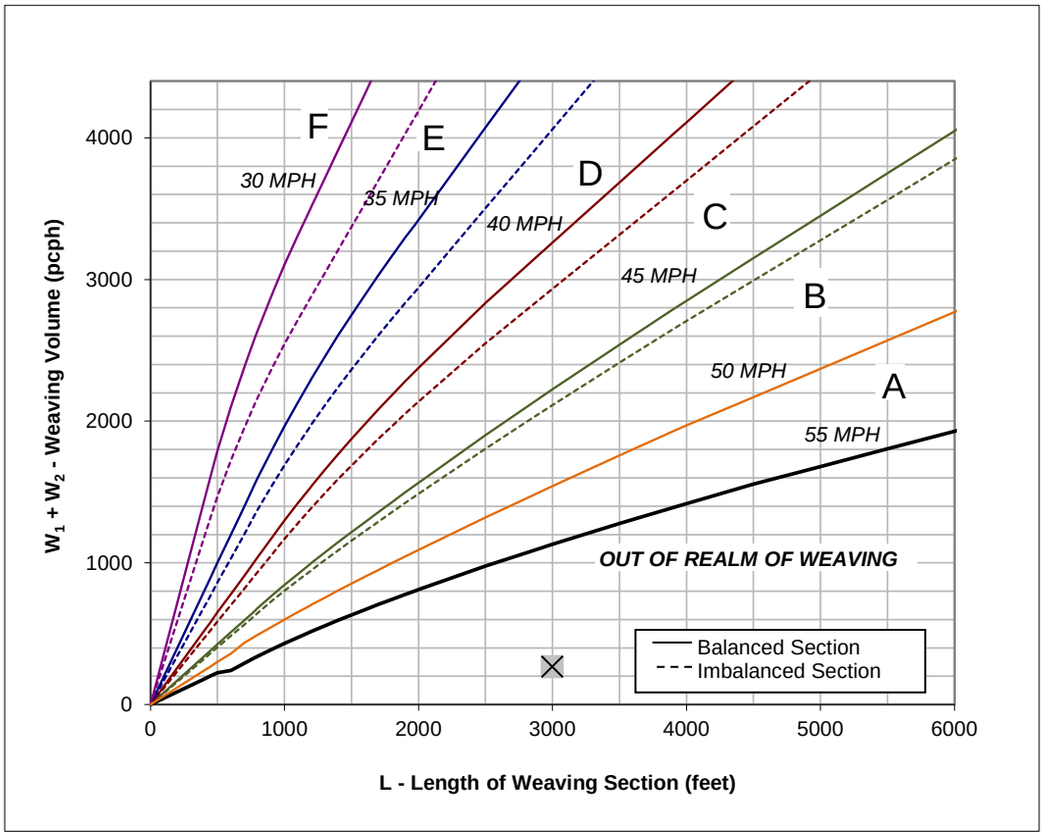
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	600	Volume (vph)*	120	Volume (vph)*	130
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	639	Volume (pcph)	128	Volume (pcph)	138

Project Information

Project	NCC
Scenario	2022 AM - ALT 1B
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



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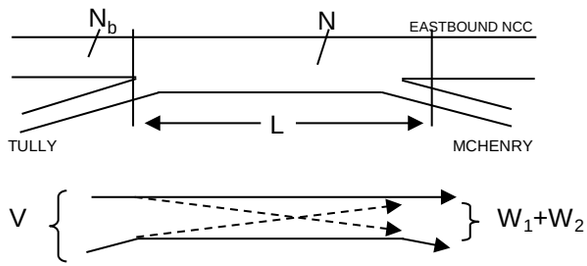


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **65.5**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **160**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

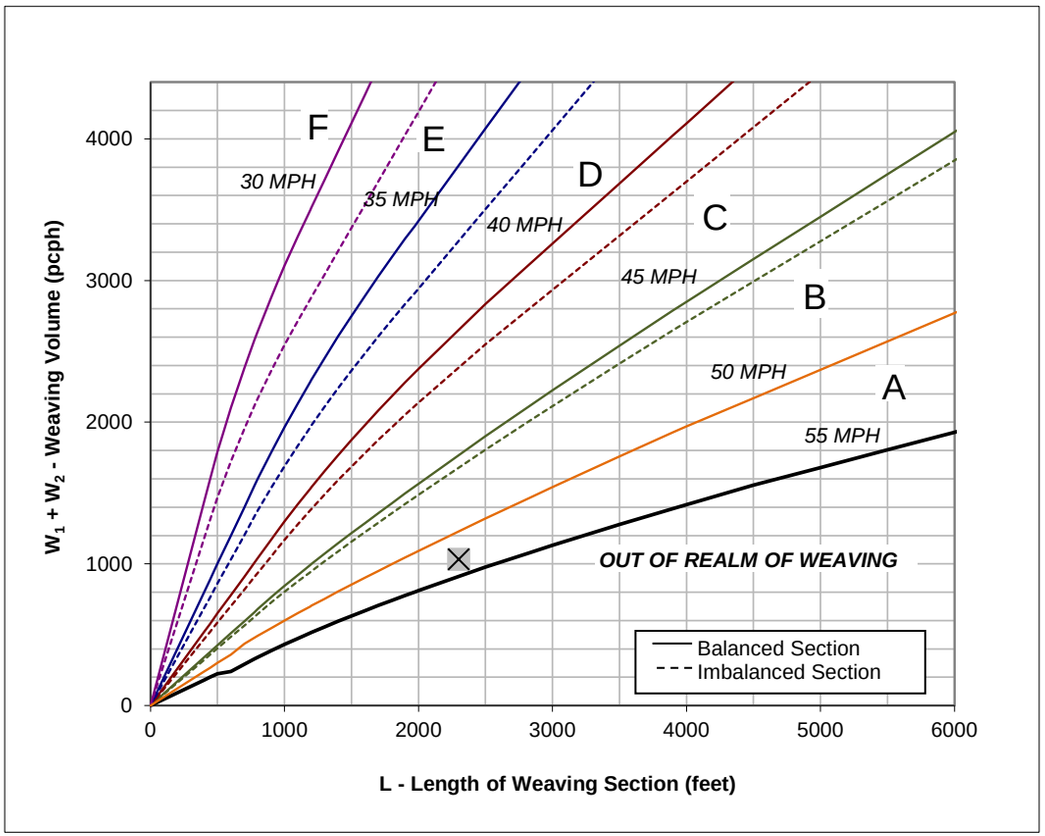
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,650	Volume (vph)*	520	Volume (vph)*	450
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,757	Volume (pcph)	554	Volume (pcph)	479

Project Information

Project	NCC
Scenario	2022 AM - ALT 1B
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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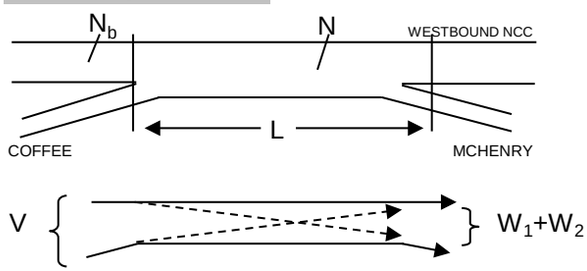


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **53.1**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **439**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

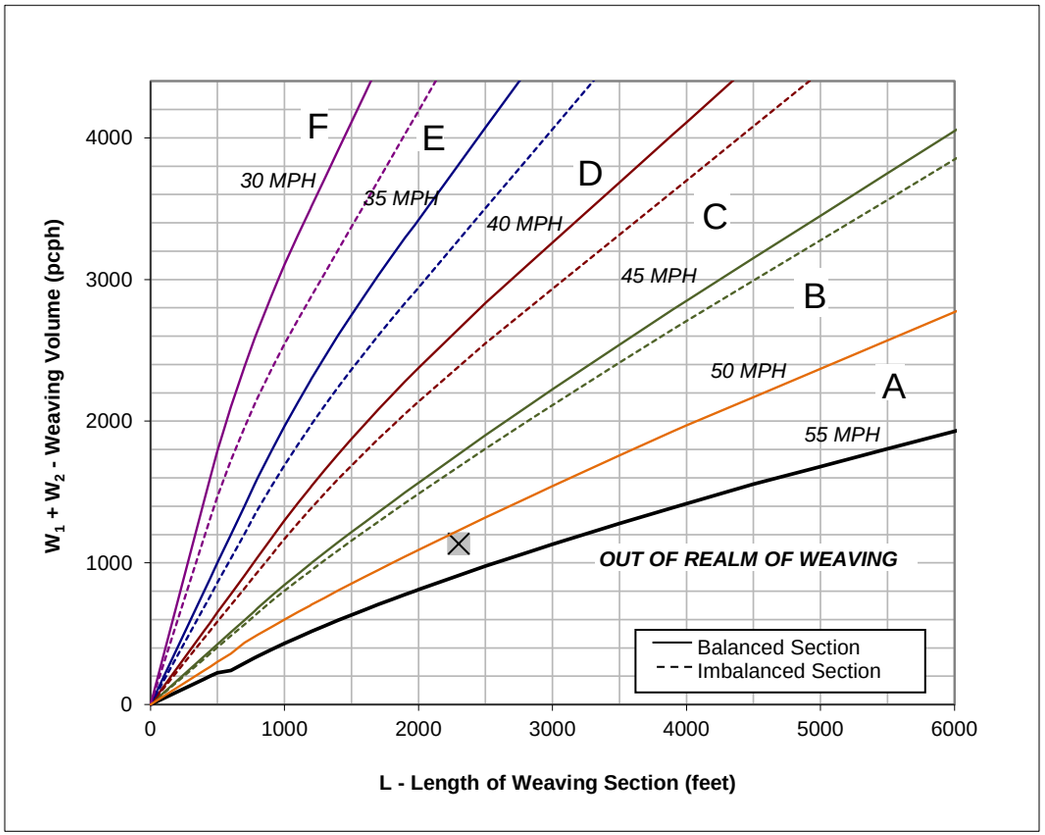
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,720	Volume (vph)*	600	Volume (vph)*	480
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,806	Volume (pcph)	630	Volume (pcph)	504

Project Information

Project	NCC
Scenario	2022 PM - ALT 1B
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



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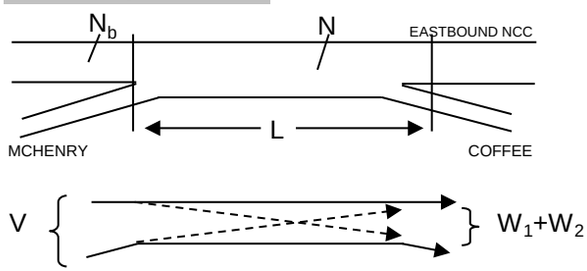


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **51.5**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **452**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

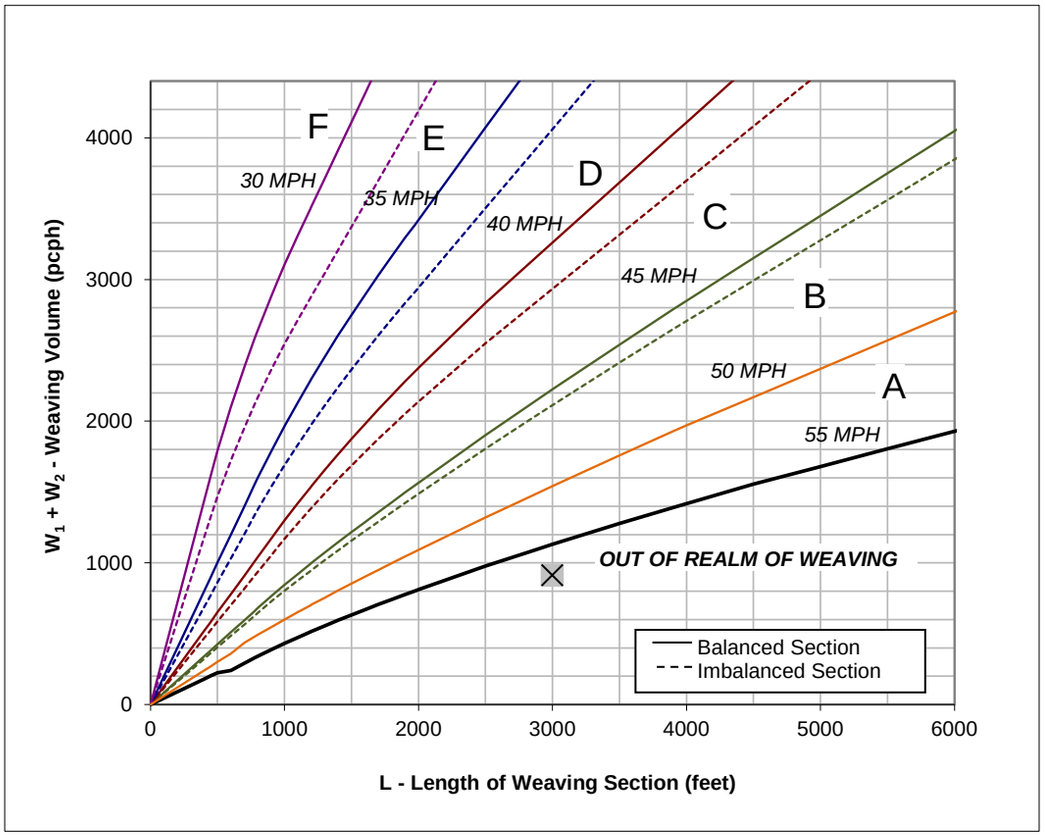
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,530	Volume (vph)*	460	Volume (vph)*	410
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,607	Volume (pcph)	483	Volume (pcph)	431

Project Information

Project	NCC
Scenario	2022 PM - ALT 1B
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



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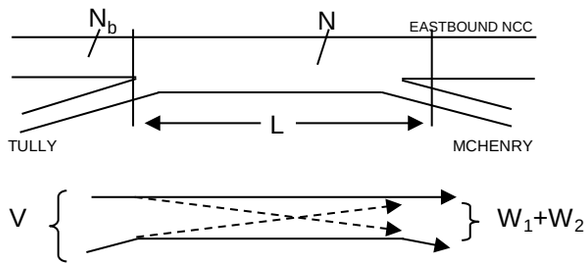


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **57.7**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **402**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

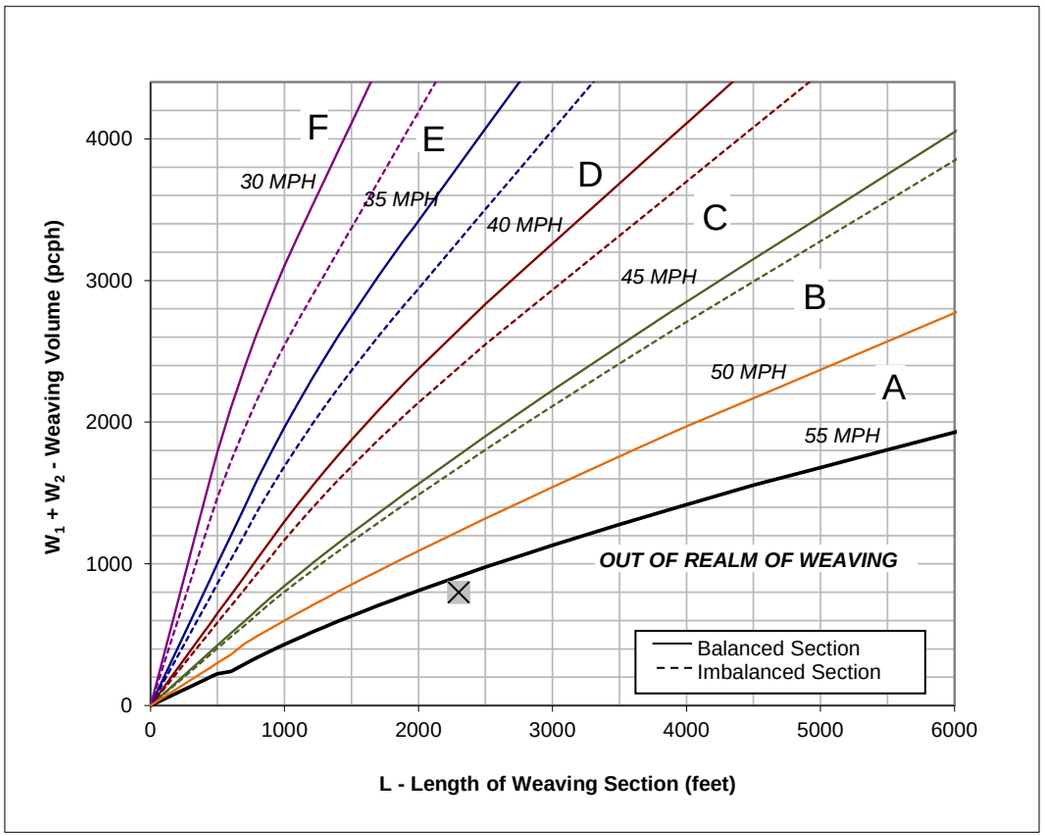
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,390	Volume (vph)*	370	Volume (vph)*	390
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,460	Volume (pcph)	389	Volume (pcph)	410

Project Information

Project	NCC
Scenario	2022 PM - ALT 1B
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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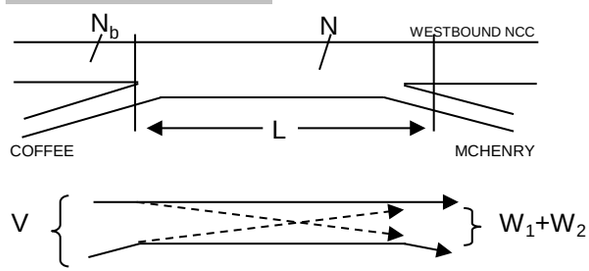


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **56.8**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **365**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

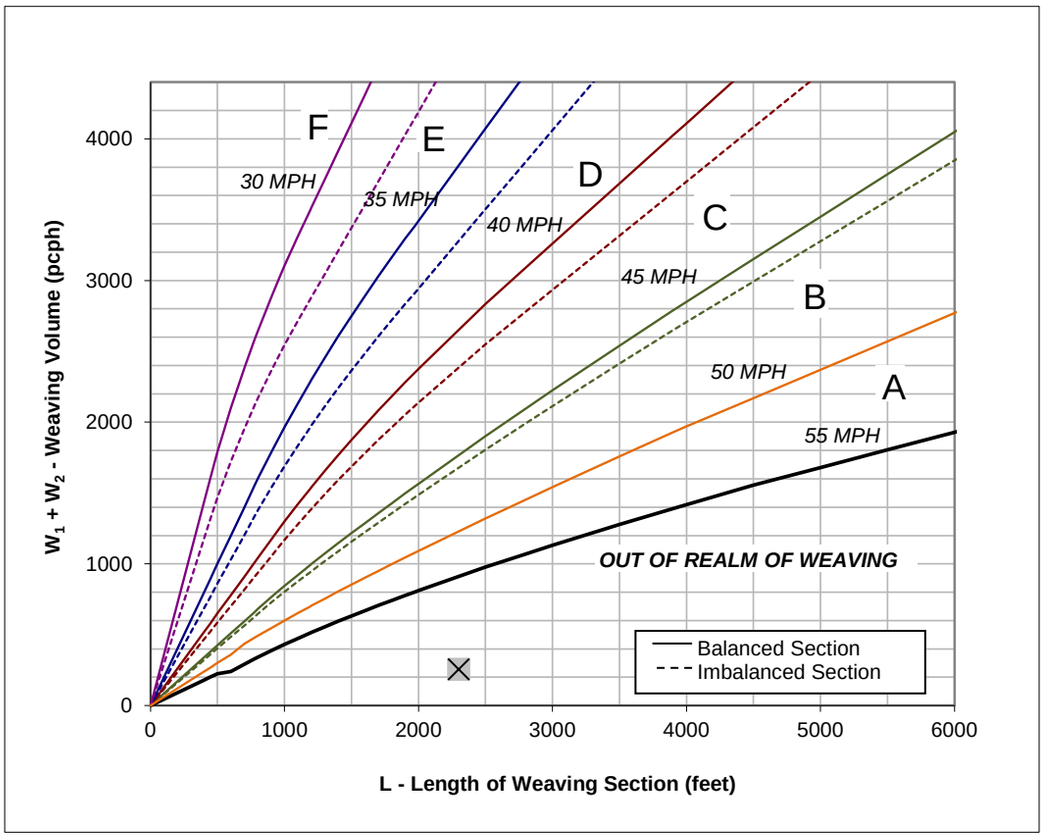
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	550	Volume (vph)*	130	Volume (vph)*	110
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	586	Volume (pcph)	138	Volume (pcph)	117

Project Information

Project	NCC
Scenario	2022 AM - ALT 2A
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



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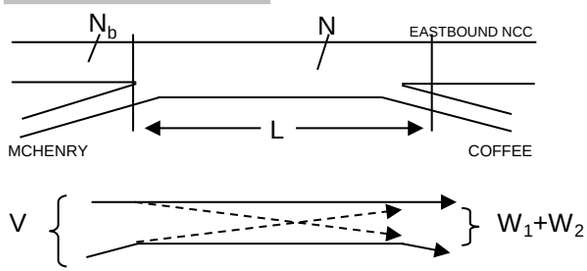

Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **65.3**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **146**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

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Leisch Method for Weaving Analysis

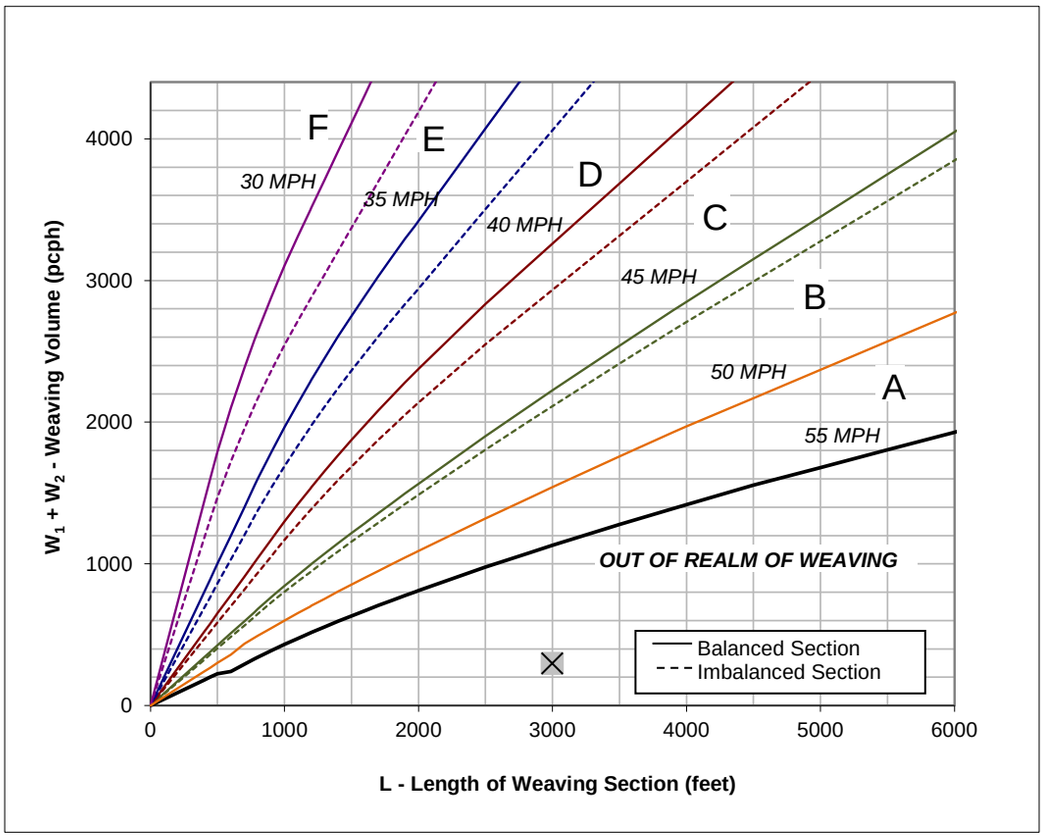
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	580	Volume (vph)*	120	Volume (vph)*	160
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	618	Volume (pcph)	128	Volume (pcph)	170

Project Information

Project	NCC
Scenario	2022 AM - ALT 2A
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



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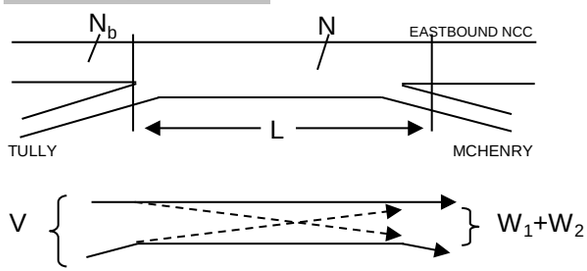

Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **65.1**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **154**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

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Leisch Method for Weaving Analysis

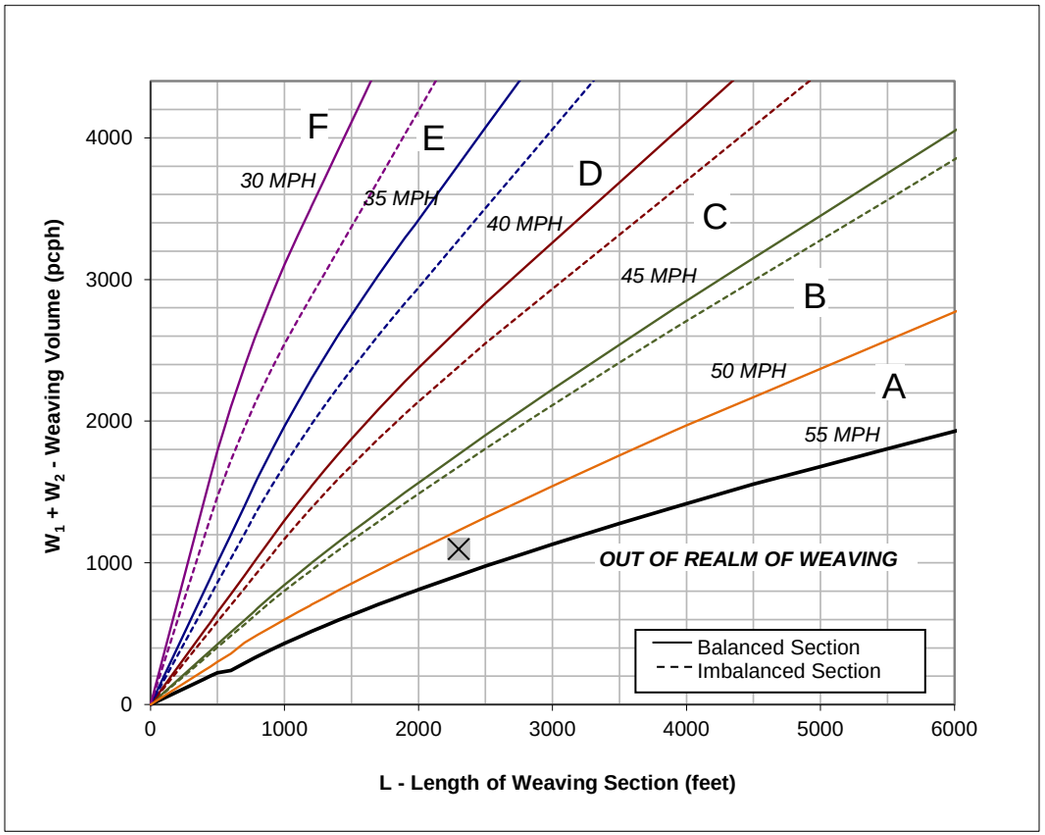
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,550	Volume (vph)*	590	Volume (vph)*	440
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,651	Volume (pcph)	628	Volume (pcph)	469

Project Information

Project	NCC
Scenario	2022 AM - ALT 2A
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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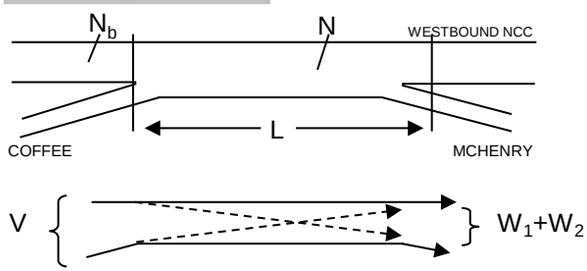


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **52.1**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **413**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

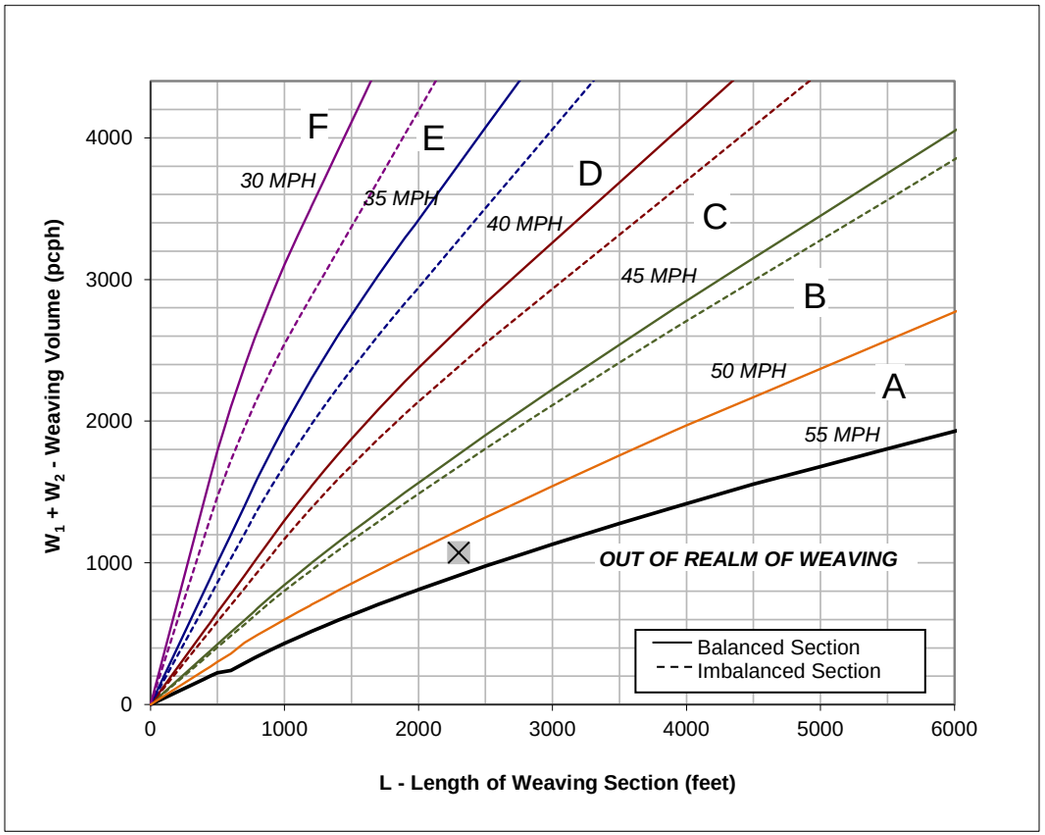
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

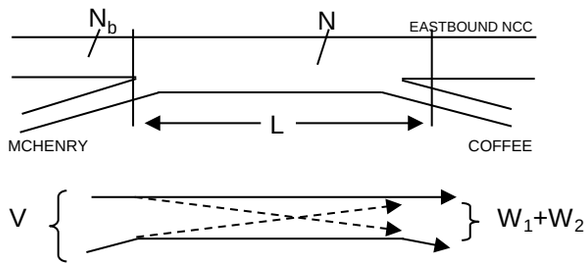
Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,590	Volume (vph)*	530	Volume (vph)*	490
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,670	Volume (pcph)	557	Volume (pcph)	515

Project Information

Project	NCC
Scenario	2022 PM - ALT 2A
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



Figure



Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **52.5**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **417**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

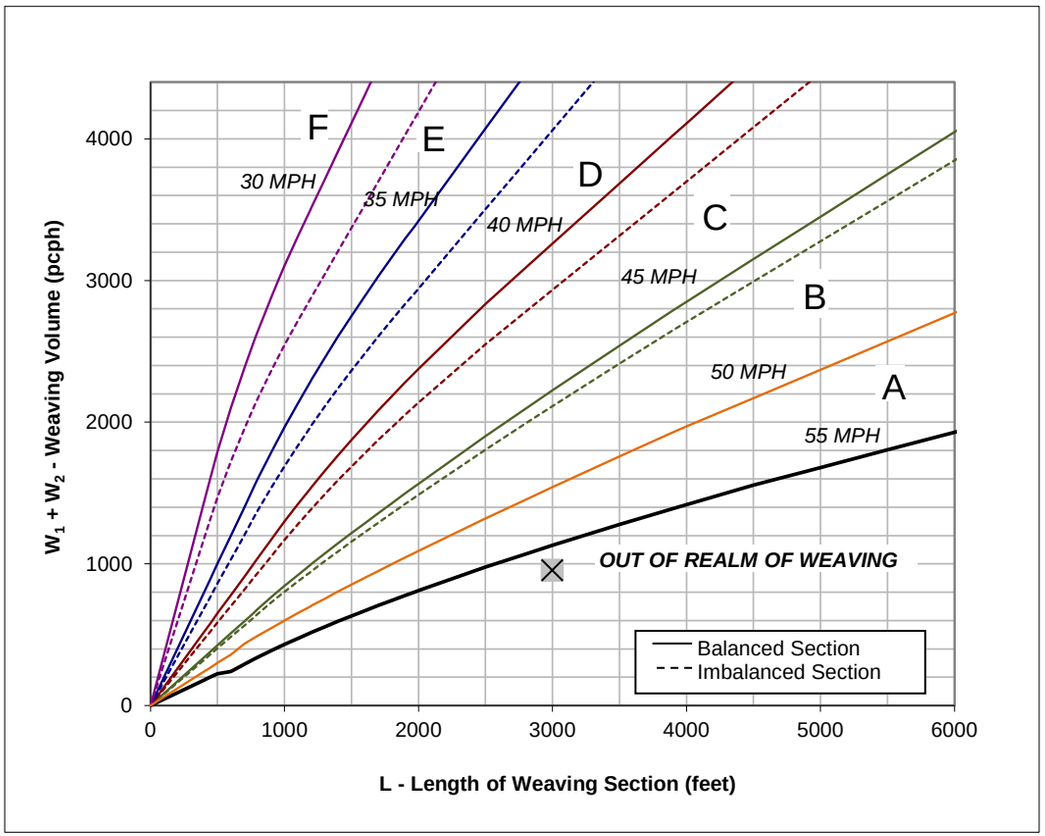
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,490	Volume (vph)*	480	Volume (vph)*	430
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,565	Volume (pcph)	504	Volume (pcph)	452

Project Information

Project	NCC
Scenario	2022 PM - ALT 2A
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



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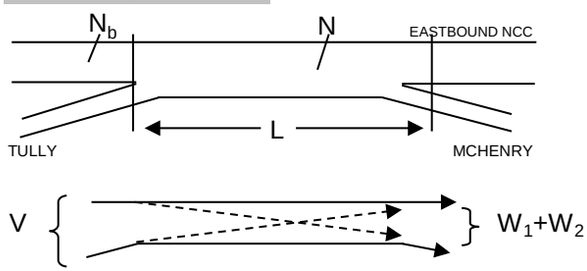


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **57.1**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **391**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

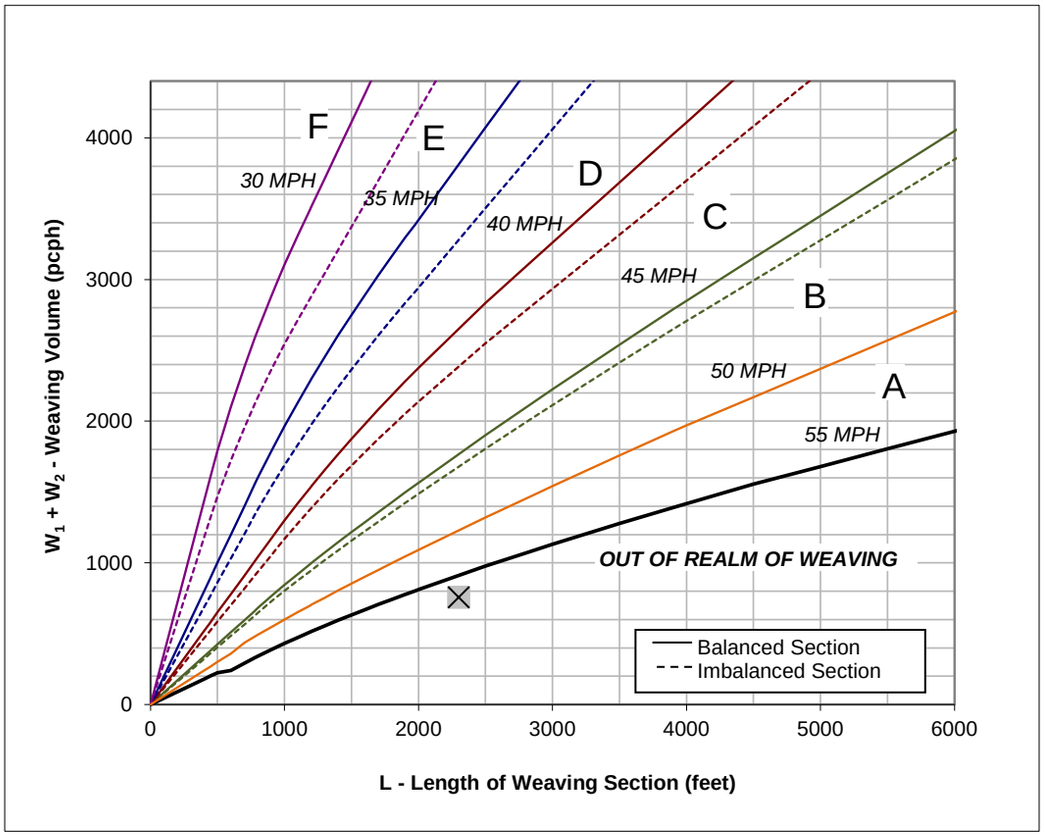
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,240	Volume (vph)*	380	Volume (vph)*	340
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,302	Volume (pcph)	399	Volume (pcph)	357

Project Information

Project	NCC
Scenario	2022 PM - ALT 2A
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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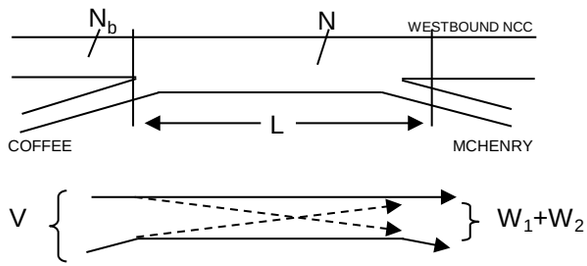

Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **57.5**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **326**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

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Leisch Method for Weaving Analysis

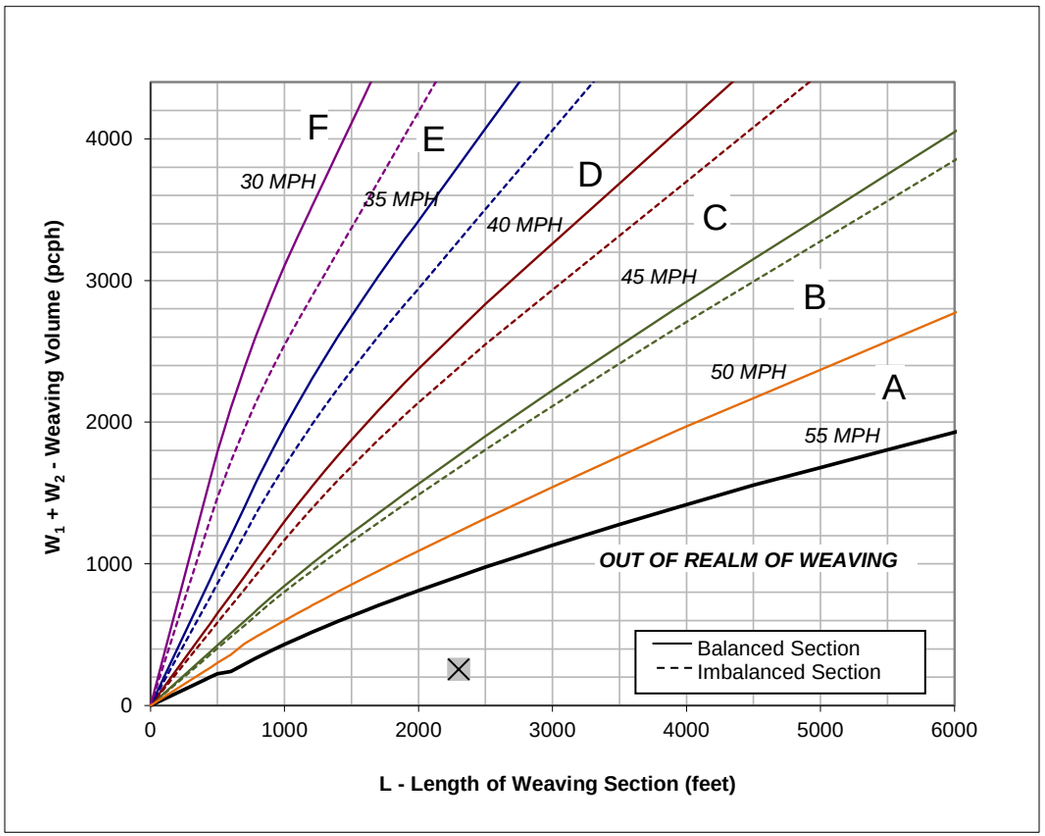
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	550	Volume (vph)*	130	Volume (vph)*	110
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	586	Volume (pcph)	138	Volume (pcph)	117

Project Information

Project	NCC
Scenario	2022 AM - ALT 2B
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



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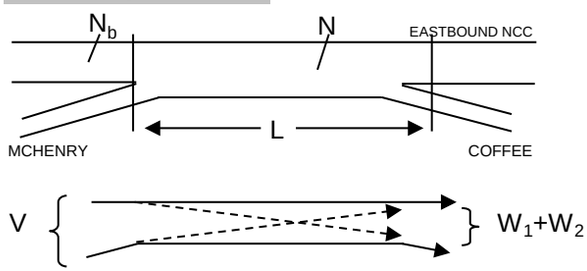

Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **65.3**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **146**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

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Leisch Method for Weaving Analysis

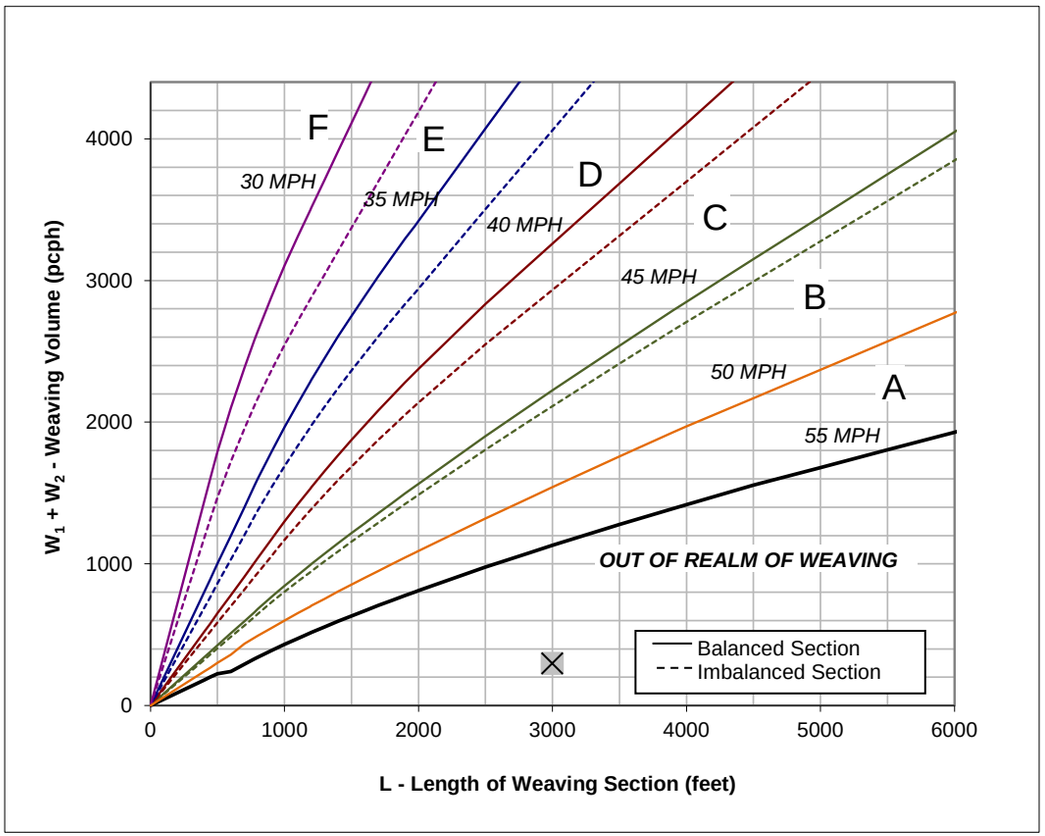
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	580	Volume (vph)*	120	Volume (vph)*	160
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	618	Volume (pcph)	128	Volume (pcph)	170

Project Information

Project	NCC
Scenario	2022 AM - ALT 2B
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



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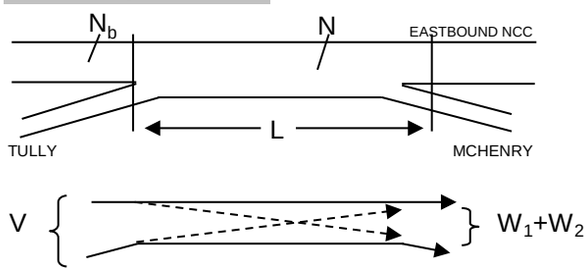

Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
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   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **65.1**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **154**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

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Leisch Method for Weaving Analysis

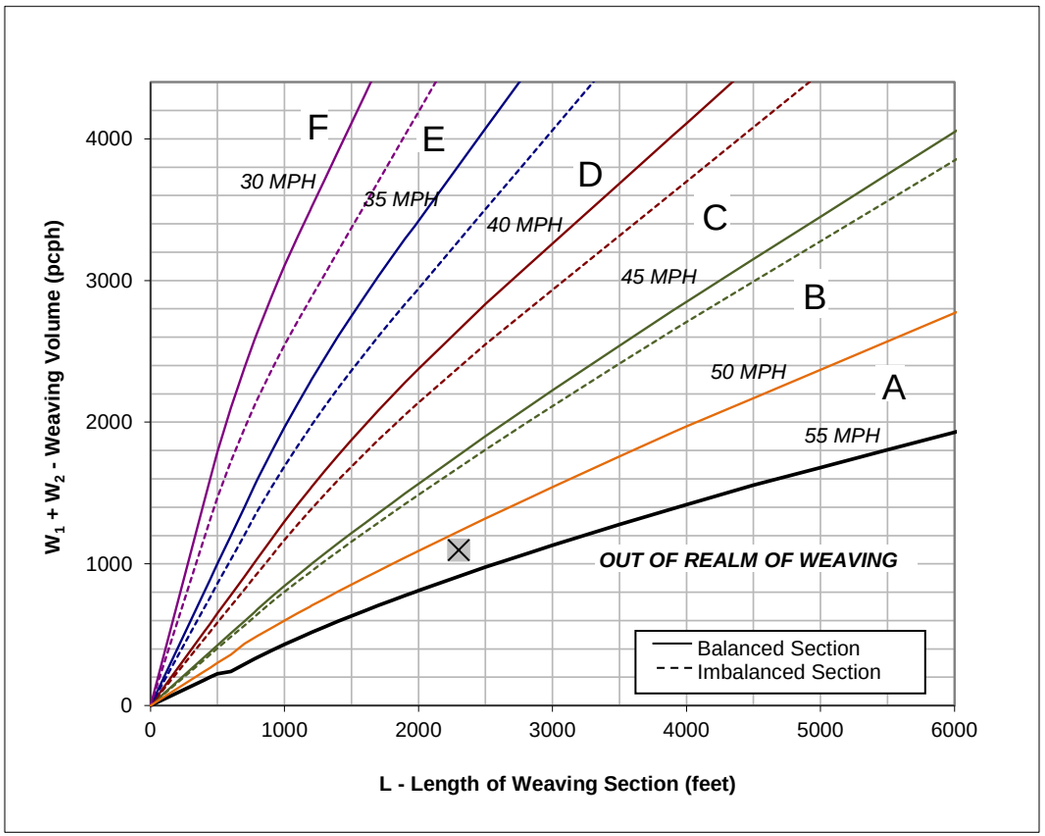
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,550	Volume (vph)*	590	Volume (vph)*	440
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,651	Volume (pcph)	628	Volume (pcph)	469

Project Information

Project	NCC
Scenario	2022 AM - ALT 2B
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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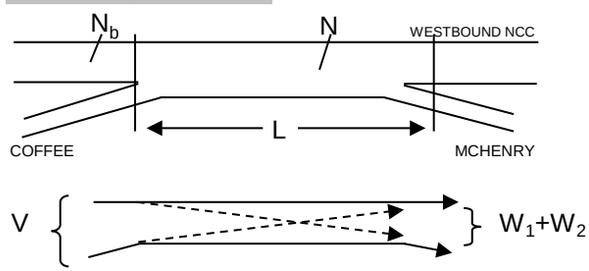

Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **52.1**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **413**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

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Leisch Method for Weaving Analysis

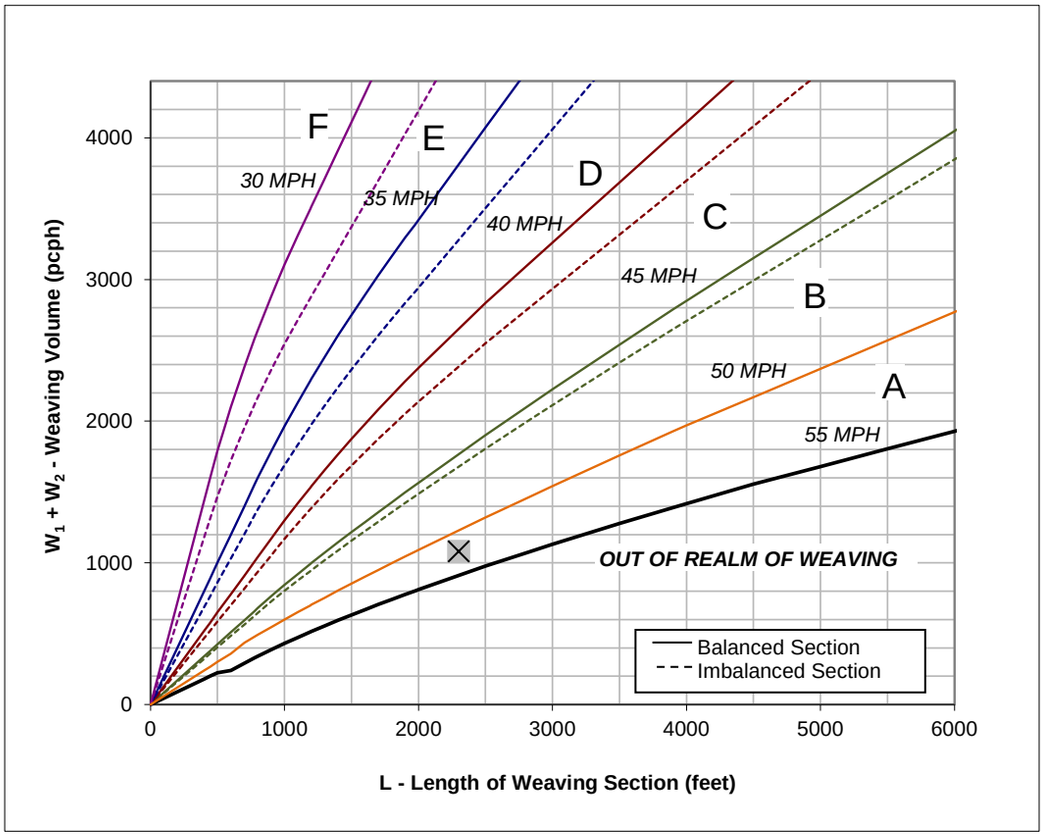
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,590	Volume (vph)*	530	Volume (vph)*	500
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,670	Volume (pcph)	557	Volume (pcph)	525

Project Information

Project	NCC
Scenario	2022 PM - ALT 2B
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



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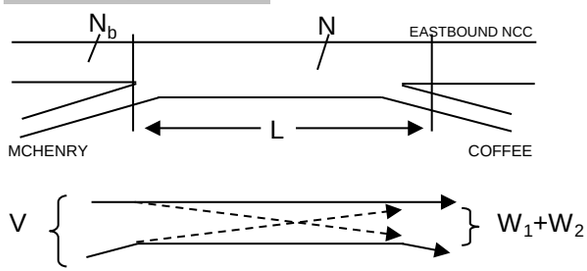


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **52.3**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **417**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

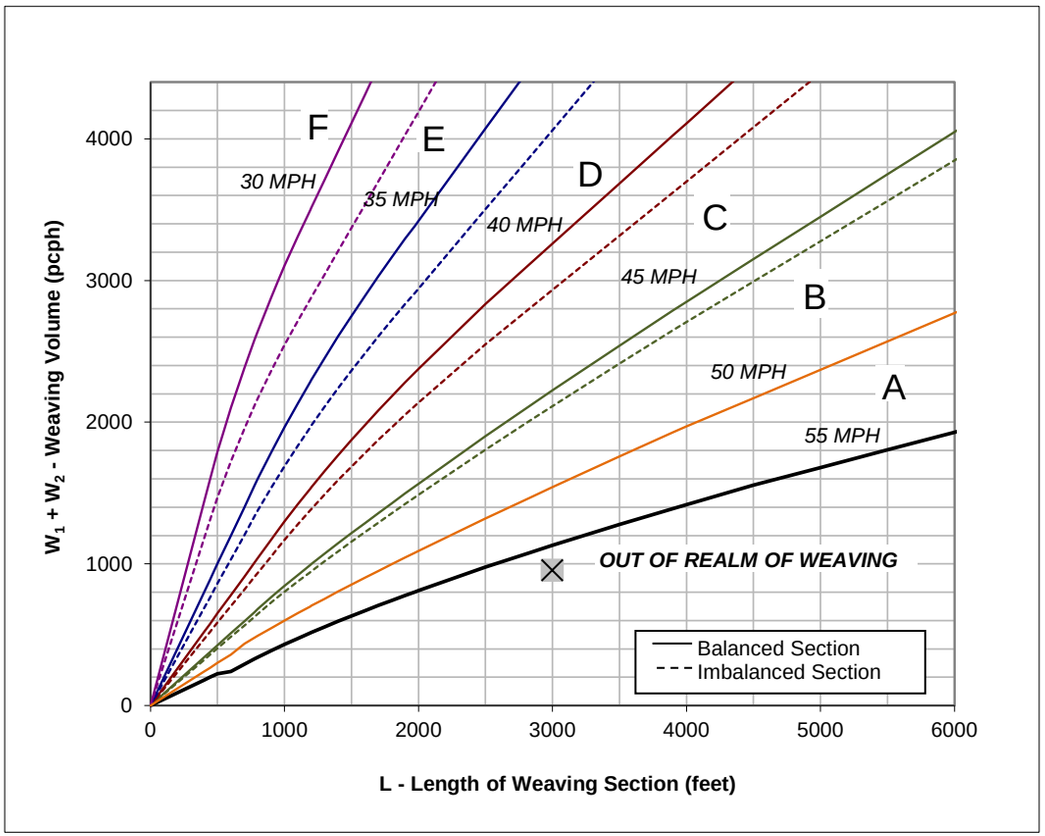
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,490	Volume (vph)*	480	Volume (vph)*	430
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,565	Volume (pcph)	504	Volume (pcph)	452

Project Information

Project	NCC
Scenario	2022 PM - ALT 2B
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



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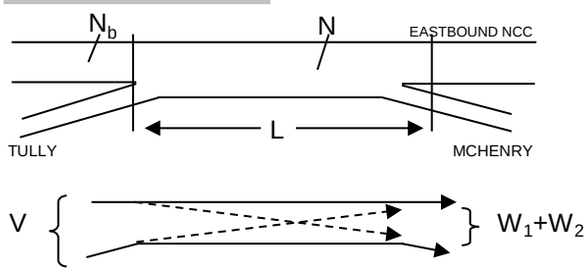


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **57.1**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **391**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

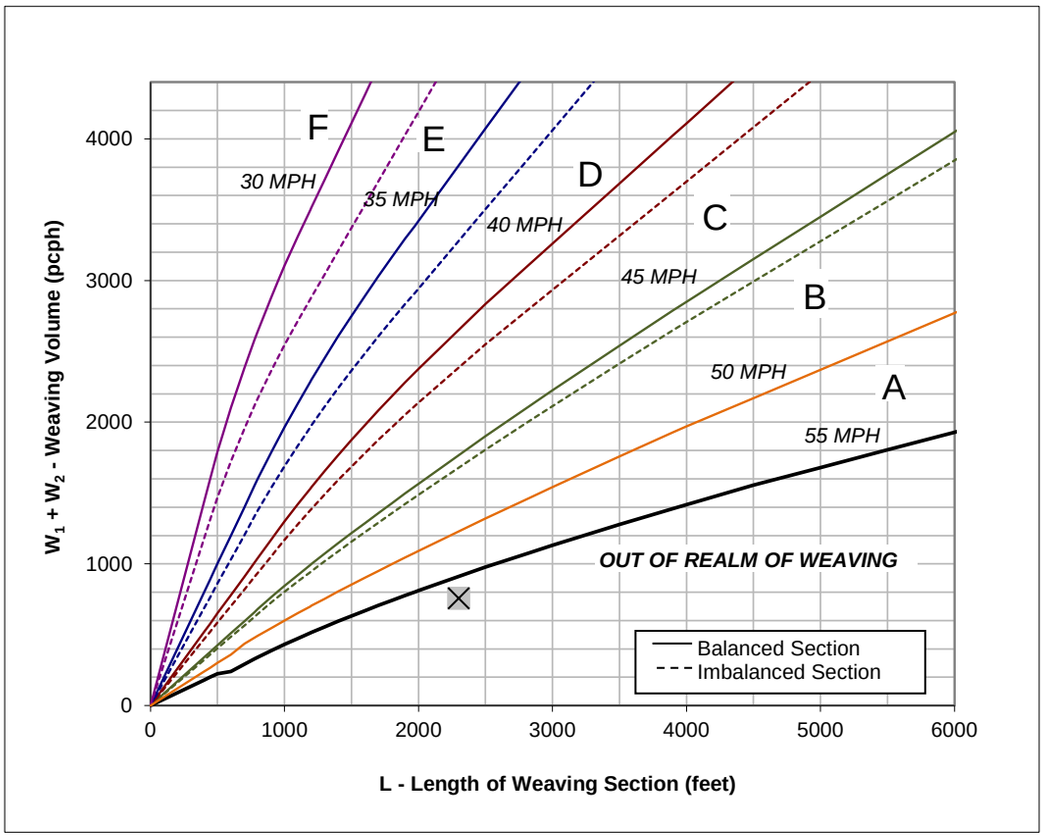
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,240	Volume (vph)*	380	Volume (vph)*	340
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,302	Volume (pcph)	399	Volume (pcph)	357

Project Information

Project	NCC
Scenario	2022 PM - ALT 2B
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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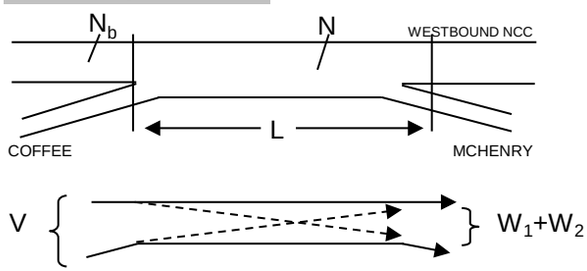


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **57.5**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **326**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

APPENDIX Q:
2022 ROADWAY SEGMENT ANALYSIS WORKSHEETS

Table E-2
Year 2022 AM PEAK HOUR ROADWAY SEGMENT LEVEL OF SERVICE

ID	Road	Study Limits		Jurisdiction	No Project					Alternative 1A					Alternative 1B					Alternative 2A					Alternative 2B				
		From	To		Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS
1	SR 219 (Kiernan Avenue) - NCC	Tully Road	McHenry Avenue	Caltrans	1,580	4	4,000	0.395	B	1,910	6	6,000	0.318	B	1,910	6	6,000	0.318	B	1,850	6	6,000	0.308	B	1,850	6	6,000	0.308	B
5	Coffee Road	SR 108	Claribel Road	Stanislaus County	680	2	2,000	0.340	C	780	2	2,000	0.390	D	800	2	2,000	0.400	D	800	2	2,000	0.400	D	810	2	2,000	0.405	D
6	Coffee Road	Claribel Road	Pelandale Avenue	City of Modesto	810	2	2,000	0.405	D	1,220	2	2,000	0.610	E	1,220	2	2,000	0.610	E	1,310	2	2,000	0.655	E	1,310	2	2,000	0.655	E
7	Oakdale Road	SR 108	Claribel Road	City of Riverbank	1,170	4	3,600	0.325	B	860	4	3,600	0.239	A	880	4	3,600	0.244	A	940	4	3,600	0.261	A	970	4	3,600	0.269	A
8	Oakdale Road	Claribel Road	Pelandale Avenue	City of Modesto	1,250	2	2,000	0.625	E	1,590	2	2,000	0.795	E	1,610	2	2,000	0.805	E	1,660	2	2,000	0.830	E	1,690	2	2,000	0.845	E
9	Claribel Road (NCC)	SR 108	Coffee Road	Stanislaus County	1,440	4	3,600	0.400	B	2,250	6	7,500	0.300	A	2,250	6	7,500	0.300	A	2,100	6	7,500	0.280	A	2,100	6	7,500	0.280	A
10	Claribel Road (NCC)	Coffee Road	Oakdale Road	Stanislaus County	1,120	4	3,600	0.311	B	2,170	6	7,500	0.289	A	2,150	6	7,500	0.287	A	1,910	6	7,500	0.255	A	1,900	6	7,500	0.253	A
11	Claratina Avenue	McHenry Avenue	Coffee Road	City of Modesto	2,390	6	6,000	0.398	B	2,240	6	6,000	0.373	B	2,240	6	6,000	0.373	B	2,270	6	6,000	0.378	B	2,270	6	6,000	0.378	B
12	Claratina Avenue	Coffee Road	Oakdale Road	City of Modesto	1,530	6	6,000	0.255	A	1,460	6	6,000	0.243	A	1,460	6	6,000	0.243	A	1,540	6	6,000	0.257	A	1,540	6	6,000	0.257	A
14	SR 108	1st Street	Claus Road	Caltrans	1,310	2	2,000	0.655	E	650	2	2,000	0.325	C	710	2	2,000	0.355	D	940	2	2,000	0.470	D	990	2	2,000	0.495	D
15	Patterson Road	SR 108	Langworth Road	City of Riverbank	970	2	2,000	0.485	D	800	2	2,000	0.400	D	800	2	2,000	0.400	D	880	2	2,000	0.440	D	880	2	2,000	0.440	D
16	Roselle Avenue	Patterson Road	Claribel Road	City of Riverbank	810	2	2,000	0.405	D	720	2	2,000	0.360	D	720	2	2,000	0.360	D	730	2	2,000	0.365	D	730	2	2,000	0.365	D
17	Roselle Avenue	Claribel Road	Sylvan Avenue	Stanislaus County	1,130	4	3,600	0.314	B	990	4	3,600	0.275	A	990	4	3,600	0.275	A	1,030	4	3,600	0.286	B	1,030	4	3,600	0.286	B
18	Claus Road	Patterson Road	Claribel Road	City of Riverbank	950	2	2,000	0.475	D	840	2	2,000	0.420	D	870	2	2,000	0.435	D	1,010	2	2,000	0.505	D	1,020	2	2,000	0.510	D
19	Claus Road	Claribel Road	Sylvan Avenue	Stanislaus County	1,220	2	2,000	0.610	E	1,460	2	2,000	0.730	E	1,440	2	2,000	0.720	E	1,170	2	2,000	0.585	D	1,150	2	2,000	0.575	D
20	Claribel Road	Oakdale Road	Claus Road	Stanislaus County	1,220	2	2,000	0.610	E	960	4	3,600	0.267	A	960	4	3,600	0.267	A	950	4	3,600	0.264	A	950	4	3,600	0.264	A
22	Langworth Road	SR 108	Claribel Road	Stanislaus County	450	2	2,000	0.225	C	70	2	2,000	0.035	A	80	2	2,000	0.040	A	160	2	2,000	0.080	B	170	2	2,000	0.085	B
23	Claribel Road	Claus Road	Langworth Road	Stanislaus County	1,000	2	2,000	0.500	D	380	2	2,000	0.190	B	380	2	2,000	0.190	B	N/A					N/A				
25	Patterson Road	Crane Road	Albers Road	Stanislaus County	480	2	2,000	0.240	C	250	2	2,000	0.125	B	250	2	2,000	0.125	B	420	2	2,000	0.210	C	430	2	2,000	0.215	C
26	Claribel Road	Langworth Road	Oakdale-Waterford Hwy	Stanislaus County	650	2	2,000	0.325	C	380	2	2,000	0.190	B	380	2	2,000	0.190	B	110	2	2,000	0.055	A	110	2	2,000	0.055	A
28	Yosemite Avenue	SR 108	Patterson Road	Stanislaus County	1,740	2	2,000	0.870	E	1,890	2	2,000	0.945	E	1,960	2	2,000	0.980	E	1,930	2	2,000	0.965	E	2,040	2	2,000	1.020	F
29	Albers Road	Patterson Road	Claribel Road	Stanislaus County	1,290	2	2,000	0.645	E	1,060	2	2,000	0.530	D	1,060	2	2,000	0.530	D	1,000	2	2,000	0.500	D	1,000	2	2,000	0.500	D
30	Oakdale-Waterford Hwy	Albers Road	Claribel Road	Stanislaus County	400	2	2,000	0.200	C	450	2	2,000	0.225	C	450	2	2,000	0.225	C	510	2	2,000	0.255	C	520	2	2,000	0.260	C

Notes: Shading indicates unacceptable operations
1 . V/C = Volume-to-Capacity Ratio
Source: Fehr & Peers, 2014.

Table E-3
Year 2022 PM PEAK HOUR ROADWAY SEGMENT LEVEL OF SERVICE

ID	Road	Study Limits		Jurisdiction	No Project					Alternative 1A					Alternative 1B					Alternative 2A					Alternative 2B				
		From	To		Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS
1	SR 219 (Kiernan Avenue) - NCC	Tully Road	McHenry Avenue	Caltrans	2,050	4	4,000	0.513	C	2,360	6	6,000	0.393	B	2,360	6	6,000	0.393	B	2,220	6	6,000	0.370	B	2,220	6	6,000	0.370	B
5	Coffee Road	SR 108	Claribel Road	Stanislaus County	760	2	2,000	0.380	D	860	2	2,000	0.430	D	880	2	2,000	0.440	D	950	2	2,000	0.475	D	970	2	2,000	0.485	D
6	Coffee Road	Claribel Road	Pelandale Avenue	City of Modesto	1,110	2	2,000	0.555	D	1,320	2	2,000	0.660	E	1,320	2	2,000	0.660	E	1,300	2	2,000	0.650	E	1,300	2	2,000	0.650	E
7	Oakdale Road	SR 108	Claribel Road	City of Riverbank	1,450	4	3,600	0.403	B	1,070	4	3,600	0.297	B	1,090	4	3,600	0.303	B	1,140	4	3,600	0.317	B	1,150	4	3,600	0.319	B
8	Oakdale Road	Claribel Road	Pelandale Avenue	City of Modesto	1,570	2	2,000	0.785	E	2,080	2	2,000	1.040	F	2,100	2	2,000	1.050	F	2,120	2	2,000	1.060	F	2,130	2	2,000	1.065	F
9	Claribel Road (NCC)	SR 108	Coffee Road	Stanislaus County	1,670	4	3,600	0.464	B	3,120	6	7,500	0.416	B	3,110	6	7,500	0.415	B	2,830	6	7,500	0.377	B	2,830	6	7,500	0.377	B
10	Claribel Road (NCC)	Coffee Road	Oakdale Road	Stanislaus County	1,380	4	3,600	0.383	B	2,880	6	7,500	0.384	B	2,850	6	7,500	0.380	B	2,500	6	7,500	0.333	B	2,480	6	7,500	0.331	B
11	Claratina Avenue	McHenry Avenue	Coffee Road	City of Modesto	2,990	6	6,000	0.498	B	2,730	6	6,000	0.455	B	2,730	6	6,000	0.455	B	2,790	6	6,000	0.465	B	2,790	6	6,000	0.465	B
12	Claratina Avenue	Coffee Road	Oakdale Road	City of Modesto	2,000	6	6,000	0.333	B	1,830	6	6,000	0.305	B	1,830	6	6,000	0.305	B	1,850	6	6,000	0.308	B	1,850	6	6,000	0.308	B
14	SR 108	1st Street	Claus Road	Caltrans	1,380	2	2,000	0.690	E	880	2	2,000	0.440	D	930	2	2,000	0.465	D	1,140	2	2,000	0.570	D	1,180	2	2,000	0.590	D
15	Patterson Road	SR 108	Langworth Road	City of Riverbank	1,270	2	2,000	0.635	E	1,010	2	2,000	0.505	D	1,040	2	2,000	0.520	D	1,090	2	2,000	0.545	D	1,120	2	2,000	0.560	D
16	Roselle Avenue	Patterson Road	Claribel Road	City of Riverbank	890	2	2,000	0.445	D	760	2	2,000	0.380	D	760	2	2,000	0.380	D	770	2	2,000	0.385	D	770	2	2,000	0.385	D
17	Roselle Avenue	Claribel Road	Sylvan Avenue	Stanislaus County	1,290	4	3,600	0.358	B	1,030	4	3,600	0.286	B	1,030	4	3,600	0.286	B	1,080	4	3,600	0.300	B	1,080	4	3,600	0.300	B
18	Claus Road	Patterson Road	Claribel Road	City of Riverbank	1,140	2	2,000	0.570	D	1,030	2	2,000	0.515	D	1,080	2	2,000	0.540	D	1,090	2	2,000	0.545	D	1,110	2	2,000	0.555	D
19	Claus Road	Claribel Road	Sylvan Avenue	Stanislaus County	1,480	2	2,000	0.740	E	1,910	2	2,000	0.955	E	1,910	2	2,000	0.955	E	1,370	2	2,000	0.685	E	1,330	2	2,000	0.665	E
20	Claribel Road	Oakdale Road	Claus Road	Stanislaus County	1,480	2	2,000	0.740	E	1,130	4	3,600	0.314	B	1,130	4	3,600	0.314	B	1,100	4	3,600	0.306	B	1,100	4	3,600	0.306	B
22	Langworth Road	SR 108	Claribel Road	Stanislaus County	520	2	2,000	0.260	C	260	2	2,000	0.130	B	280	2	2,000	0.140	B	250	2	2,000	0.125	B	270	2	2,000	0.135	B
23	Claribel Road	Claus Road	Langworth Road	Stanislaus County	1,070	2	2,000	0.535	D	520	2	2,000	0.260	C	520	2	2,000	0.260	C	N/A					N/A				
25	Patterson Road	Crane Road	Albers Road	Stanislaus County	570	2	2,000	0.285	C	270	2	2,000	0.135	B	270	2	2,000	0.135	B	520	2	2,000	0.260	C	550	2	2,000	0.275	C
26	Claribel Road	Langworth Road	Oakdale-Waterford Hwy	Stanislaus County	690	2	2,000	0.345	D	400	2	2,000	0.200	C	400	2	2,000	0.200	C	120	2	2,000	0.060	A	120	2	2,000	0.060	A
28	Yosemite Avenue	SR 108	Patterson Road	Stanislaus County	1,750	2	2,000	0.875	E	2,170	2	2,000	1.085	F	2,310	2	2,000	1.155	F	1,970	2	2,000	0.985	E	2,100	2	2,000	1.050	F
29	Albers Road	Patterson Road	Claribel Road	Stanislaus County	1,310	2	2,000	0.655	E	1,090	2	2,000	0.545	D	1,090	2	2,000	0.545	D	970	2	2,000	0.485	D	970	2	2,000	0.485	D
30	Oakdale-Waterford Hwy	Albers Road	Claribel Road	Stanislaus County	490	2	2,000	0.245	C	680	2	2,000	0.340	C	680	2	2,000	0.340	C	650	2	2,000	0.325	C	660	2	2,000	0.330	C

Notes: Shading indicates unacceptable operations
1 . V/C = Volume-to-Capacity Ratio
Source: Fehr & Peers, 2014.

APPENDIX R:
ICE FACT SHEET AND SUPPORTING DOCUMENTATION

North County Corridor Transportation Expressway Authority

North County Corridor Project

(Tully Road to State Route 108/120)

Signal/Roundabout Screening Results

March 13, 2015

Meeting Summary

The PDT members met on March 12, 2015 to discuss the Intersection Control Evaluation (ICE) scoring for the North County Corridor project. The North County Corridor project, in Stanislaus County, proposes to construct a new State Route 108 freeway/expressway from the intersection of State Route 108 (McHenry Avenue) and State Route 219 (Kiernan Avenue) east along one of four alignment alternatives to a termini on State Route 108/120 in Oakdale. Four intersections will be controlled with interchanges and depending on which alignment alternative is selected, there may be five or six intersections that would either be controlled by either a traffic signal or roundabout.

The results of the ICE scoring are tabulated below:

All Alternatives - NCC/Claus Road

PDT Members		Total Points		
Name	Agency	STOP	3-LANE ROUNDABOUT	SIGNAL
Jaime Quesada	Caltrans - District 10 Traffic	45	89	92
Joy Pinne	Caltrans - Project Management	45	87	91
Colt Esenwein	Stanislaus County	43	73	82
John Anderson	City of Riverbank	0	78	87
Jose Silva	Drake Haglan & Associates	46	60	78
Eddie Barrios	Fehr & Peers	46	80	94
Juan Torres	Caltrans - Environmental	0	76	66
Jeff Barnes	City of Modesto	41	83	87
Namat Hosseinion	Dokken Environmental	41	88	82
Long Huynh	Caltrans Maintenance	20	83	83
Anton Kismetian	Caltrans Design Oversight	39	69	68

Alternatives 1A & 1B - NCC/Crane Road

PDT Members		Total Points		
Name	Agency	STOP	3-LANE ROUNDABOUT	SIGNAL
Jaime Quesada	Caltrans - District 10 Traffic	45	89	91
Joy Pinne	Caltrans - Project Management	45	87	90
Colt Esenwein	Stanislaus County	43	73	82
Jose Silva	Drake Haglan & Associates	46	62	74
Eddie Barrios	Fehr & Peers	46	82	94
Juan Torres	Caltrans - Environmental	0	74	69
Jeff Barnes	City of Modesto	41	83	87
Namat Hosseinion	Dokken Environmental	44	90	78
Long Huynh	Caltrans Maintenance	20	83	83
Anton Kismetian	Caltrans Design Oversight	0	68	68

Alternatives 1A & 1B - NCC/Albers Road

PDT Members		Total Points		
Name	Agency	STOP	3-LANE ROUNDABOUT	SIGNAL
Jaime Quesada	Caltrans - District 10 Traffic	45	90	90
Joy Pinne	Caltrans - Project Management	45	87	88
Colt Esenwein	Stanislaus County	43	73	82
Jose Silva	Drake Haglan & Associates	46	70	76
Eddie Barrios	Fehr & Peers	46	82	82
Juan Torres	Caltrans - Environmental	0	73	61
Jeff Barnes	City of Modesto	41	83	87
Namat Hosseinion	Dokken Environmental	46	88	78
Long Huynh	Caltrans Maintenance	20	83	83
Anton Kismetian	Caltrans Design Oversight	0	68	68

Alternatives 2A & 2B - NCC/Albers Road

PDT Members		Total Points		
Name	Agency	STOP	3-LANE ROUNDABOUT	SIGNAL
Jaime Quesada	Caltrans - District 10 Traffic	45	90	90
Joy Pinne	Caltrans - Project Management	45	87	88
Colt Esenwein	Stanislaus County	43	73	82
Jose Silva	Drake Haglan & Associates	46	68	74

Eddie Barrios	Fehr & Peers	46	82	82
Juan Torres	Caltrans - Environmental	0	73	61
Jeff Barnes	City of Modesto	41	83	87
Namat Hosseinion	Dokken Environmental	42	88	88
Long Huynh	Caltrans Maintenance	20	83	83
Anton Kismetian	Caltrans Design Oversight	0	68	68

Alternative 1B - NCC/S. Stearns Road

PDT Members		Total Points		
Name	**Agency**	**STOP**	**2-LANE ROUNDABOUT**	**SIGNAL**
Jaime Quesada	Caltrans - District 10 Traffic	45	98	90
Joy Pinne	Caltrans - Project Management	45	90	90
Colt Esenwein	Stanislaus County	43	78	80
Jose Silva	Drake Haglan & Associates	46	64	72
Eddie Barrios	Fehr & Peers	46	86	90
Juan Torres	Caltrans - Environmental	0	67	64
Jeff Barnes	City of Modesto	41	87	87
Namat Hosseinion	Dokken Environmental	44	96	78
Long Huynh	Caltrans Maintenance	20	83	85
Anton Kismetian	Caltrans Design Oversight	0	70	68

All Alternatives - NCC/SR 120/SR 108

PDT Members		Total Points		
Name	**Agency**	**STOP**	**2-LANE ROUNDABOUT**	**SIGNAL**
Jaime Quesada	Caltrans - District 10 Traffic	45	98	90
Joy Pinne	Caltrans - Project Management	46	90	90
Colt Esenwein	Stanislaus County	43	84	80
Jose Silva	Drake Haglan & Associates	46	80	80
Eddie Barrios	Fehr & Peers	46	94	90
Juan Torres	Caltrans - Environmental	0	63	62
Jeff Barnes	City of Modesto	41	87	87
Namat Hosseinion	Dokken Environmental	44	92	80
Long Huynh	Caltrans Maintenance	20	83	85
Anton Kismetian	Caltrans Design Oversight	0	68	64

Alternatives 2A & 2B - NCC/Bentley Road

PDT Members		Total Points		
Name	Agency	STOP	2-LANE ROUNDABOUT	SIGNAL
Jaime Quesada	Caltrans - District 10 Traffic	45	98	90
Joy Pinne	Caltrans - Project Management	46	89	88
Colt Esenwein	Stanislaus County	43	78	80
Jose Silva	Drake Haglan & Associates	46	68	70
Eddie Barrios	Fehr & Peers	46	82	80
Juan Torres	Caltrans - Environmental	0	69	57
Jeff Barnes	City of Modesto	41	87	87
Namat Hosseinion	Dokken Environmental	44	96	76
Long Huynh	Caltrans Maintenance	20	83	85
Anton Kismetian	Caltrans Design Oversight	0	68	68

Alternative 2B - NCC/Smith Road

PDT Members		Total Points		
Name	Agency	STOP	2-LANE ROUNDABOUT	SIGNAL
Jaime Quesada	Caltrans - District 10 Traffic	45	98	90
Joy Pinne	Caltrans - Project Management	47	90	90
Colt Esenwein	Stanislaus County	43	78	80
Jose Silva	Drake Haglan & Associates	46	64	70
Eddie Barrios	Fehr & Peers	46	86	90
Juan Torres	Caltrans - Environmental	0	67	59
Jeff Barnes	City of Modesto	41	87	87
Namat Hosseinion	Dokken Environmental	44	96	76
Long Huynh	Caltrans Maintenance	20	83	85
Anton Kismetian	Caltrans Design Oversight	0	70	68

All Alternatives - NCC/New Access Road

PDT Members		Total Points		
Name	Agency	STOP	2-LANE ROUNDABOUT	SIGNAL
Jaime Quesada	Caltrans - District 10 Traffic	45	98	90
Joy Pinne	Caltrans - Project Management	47	89	92
Colt Esenwein	Stanislaus County	43	84	80
Jose Silva	Drake Haglan & Associates	46	64	70

Eddie Barrios	Fehr & Peers	46	86	90
Juan Torres	Caltrans - Environmental	0	66	64
Jeff Barnes	City of Modesto	41	87	87
Namat Hosseinion	Dokken Environmental	44	96	78
Long Huynh	Caltrans Maintenance	20	83	85
Anton Kismetian	Caltrans Design Oversight	0	68	64

There was clear consensus from the PDT on making a traffic signal recommendation for Claus Road and for roundabouts for the North County Corridor connections to State Route 108/120 and the new access roads to the south of the State Route 108/120 connection points. The other intersections required further discussion and are summarized as follows:

Alternatives 1A & 1B - NCC/Crane Road

A majority of the PDT felt that this intersection should be controlled by a traffic signal as opposed to a 3-lane roundabout. The safety benefits of a roundabout are significantly reduced with a 3-lane roundabout and the operational benefit is minimal at this location compared to a traffic signal. The consensus of the PDT was to recommend a traffic signal for this location.

All Alternatives - NCC/Albers Road

A majority of the PDT felt that this intersection (for all alternatives) should be controlled by a traffic signal as opposed to a 3-lane roundabout. The safety benefits of a roundabout are significantly reduced with a 3-lane roundabout and the operational benefit is minimal at this location compared to a traffic signal. The consensus of the PDT was to recommend a traffic signal for this location.

Alternatives 2A & 2B - NCC/Bentley Road

The PDT was split on whether this intersection should be controlled by a traffic signal as opposed to a 2-lane roundabout. The PDT felt that because Claus Road (to the west) will be signalized and Albers Road to the east will be signalized that signalizing Bentley Road will better meet drivers' expectation. The consensus of the PDT was to recommend a traffic signal for this location.

Alternative 1B - NCC/S. Stearns Road

The PDT was split on whether this intersection should be controlled by a traffic signal as opposed to a 2-lane roundabout. The PDT felt that because the new access road intersection and connection to State Route 108/120 (to the east) will both be roundabouts that making S. Stearns Road a roundabout would be a natural transition point to roundabouts and better meet drivers' expectation. The PDT discussed and agreed that there would be a safety benefit for a roundabout at this location. The consensus of the PDT was to recommend a roundabout for this location.

Alternative 2B - NCC/S. Smith Road

The PDT was split on whether this intersection should be controlled by a traffic signal as opposed to a 2-lane roundabout. The PDT felt that because the new access road intersection and connection to

State Route 108/120 (to the east) will both be roundabouts that making Smith Road a roundabout would be a natural transition point to roundabouts and better meet drivers' expectation. The PDT discussed and agreed that there would be a safety benefit for a roundabout at this location. The consensus of the PDT was to recommend a roundabout for this location.

A summary of the PDT's final recommendations are as follows:

Intersections		Final Recommendation		
Alternative	**Cross Street**	**2-LANE Roundabout**	**3-LANE ROUNDABOUT**	**SIGNAL**
All Alternatives	Claus Road			X
1A & 1B	Crane Road			X
2A & 2B	Bentley Road			X
All Alternatives	Albers Road			X
1B	S. Stearns Road	X		
2B	Smith Road	X		
All Alternatives	New Access Road	X		
All Alternatives	Connection to SR 108/120	X		

CALTRANS APPROVAL:

Vu H Nguyen 3/27/15

Vu Nguyen, P.E. Caltrans District 10
Traffic Operations Branch

NORTH COUNTY CORRIDOR – NEW STATE ROUTE 108 PROJECT

CRITERIA REVIEW BACKUP STATEMENTS

1. PROJECT COST

Project concepts for each of the project alternatives were developed to prepare preliminary cost estimates for construction and right-of-way. The cost estimates associated with the construction of a signalized intersection and the construction of a roundabout, for the various intersections, are shown in the table below. In general, the construction cost of signalized intersections and roundabouts, whether two-lane or three-lane, will be very similar. Roundabout costs are generally a bit higher. However, due to the proposed median width and large intersections, the footprint would be very close for both therefore impacts to right-of-way would also be similar.

SUMMARY TABLE OF PROJECT COSTS (Costs are in millions)								
	ALTERNATIVE 1A		ALTERNATIVE 1B		ALTERNATIVE 2A		ALTERNATIVE 2B	
INTERSECTION	Traffic Signal	Round-about	Traffic Signal	Round-about	Traffic Signal	Round-about	Traffic Signal	Round-about
NCC/Claus Road ***	$5.10	$5.25***	$5.10	$5.25***	$5.10	$5.25***	$5.10	$5.25***
NCC/Crane Road ***	$5.15	$5.25***	$5.15	$5.25***				
NCC/Albers Road ****	$4.15	$4.20****	$4.15	$4.20****	$4.15	$4.20****	$4.15	$4.20****
NCC/S Stearns Road			$8.80	$9.55				
NCC/SR 120/SR 108	$3.60	$3.90	$6.70	$7.20	$3.60	$3.90	$6.70	$7.20
NCC/Bentley Road					$5.40	$5.60	$5.40	$5.60
NCC/Smith Road							$4.50	$4.45
NCC/New Access Road	$8.50	$9.15	$6.65	$7.00	$8.50	$9.15	$6.65	$7.00

Roundabouts are 2-lane except as noted.

*** 3-Lane Roundabout

**** 3-Lane Roundabout and for purpose of ICE comparison Albers Rd. has same r/w footprint and cost with any alternative

2. MEET THE PURPOSE AND NEED

The purpose of the project is to reduce existing and future traffic congestion in northern Stanislaus County, enhance traffic safety on existing SR 108, support the efficient movement of goods, and improve interregional travel as follows:

- Reduce existing and future traffic congestion on existing SR 108 and surrounding regional transportation network in northern Stanislaus County and the Cities of Modesto, Riverbank, and Oakdale by providing a new east-west transportation facility;
- Enhance traffic safety on existing SR 108 through the communities of Riverbank and Oakdale by reducing average daily traffic volumes (particularly truck traffic),
- Support efficient movement of goods by providing a new east-west transportation facility that will reduce the number of conflict areas with non-motorized traffic, increase the average operating speeds, and improve travel time reliability, and
- Improve interregional travel by reducing travel times for long distance commuters, recreational traffic, and interregional goods movement

The existing transportation network includes traffic signals and stop controlled intersections. Traffic signals are mainly located within the urban area. The proposed project will be a new facility that replaces all the intersections within the corridor alignments and will provide access points where needed based on traffic operations. Existing stop controlled intersections within the corridor alignments will be replaced by installing either a traffic signal or a roundabout at the intersections.

The existing traffic signals and stop controlled intersections are not adequate to accommodate future traffic needs, especially large trucks. In combination with non-standard lane configurations, the existing traffic controls and the presence of large trucks can contribute to congestion at the intersection. Traffic volumes at the intersections would result in unacceptable levels of service, and the slow rates of truck acceleration and deceleration contribute to queues that can extend back from the stop signs during peak periods.

3. MEET DRIVER EXPECTATION

Excerpt from FHWA Publication, Roundabouts: An Informational Guide (FHWA-RD-00-068 March 2000):

Good roundabout designs encourage speed reduction and speed consistency.

Good roundabout design places a high priority on speed reduction and speed consistency. Such designs require that vehicles negotiate the roundabout through a series of turning maneuvers at low speeds, generally less than 30 km/h (20 mph). Speed consistency refers to the design objective of slowing vehicles in stages down to the desired negotiating speed to be consistent with the expectations of drivers. Speed control is provided by geometric features, not only by traffic control devices or by the impedance of other traffic. Because of this, speed reduction can be achieved at all times of the day. If achieved by good design, then in principle, lower vehicle speeds should provide the following safety benefits:

Potential safety benefits of low vehicle speeds.

- Reduce crash severity for pedestrians and bicyclists, including older pedestrians, children, and impaired persons;
- Provide more time for entering drivers to judge, adjust speed for, and enter a gap in circulating traffic;
- Allow safer merges into circulating traffic;
- Provide more time for all users to detect and correct for their mistakes or mistakes of others;
- Make collisions less frequent and less severe; and
- Make the intersection safer for novice users.

For example, Exhibit 2-2 shows that a pedestrian is about three times more likely to die when struck at 50km/h (30 mph) than at 32 km/h (20 mph), across a range of only 18 km/h (10 mph) difference in speed (4). Typical commuter bicyclist speeds are in the range of 20 to 25 km/h (12 to 15 mph). Therefore, the difference in design speed is critical to all users who are not within the protective body of a motorized vehicle. The minor additional delay or inconvenience to drivers of lower-speed roundabout designs (as compared to higher-speed roundabout designs) is a tradeoff for the substantial safety benefit to pedestrians and bicyclists. Older drivers may benefit from the additional time to perceive, think, react, and correct for errors (as many all users). It should be clarified that there has been no specific research performed on older drivers, older pedestrians, and older bicyclists at roundabouts. It should also be noted that visually impaired pedestrians are not provided the audible cues from vehicle streams that are available at a signal controlled intersection. For example, at roundabout exits, it may be difficult to discern the sound of vehicles which will continue to circulate from those exiting the roundabout. Therefore, information needs to be provided to these users through various appropriate design features to assist them in safely locating and navigating the crossings at roundabouts.

Visually impaired pedestrians are not provided with audible cues from vehicle streams.

The general public is not familiar with driving roundabouts, especially out in the rural areas. Drivers would especially not expect to see three-lane roundabouts or a roundabout in isolated locations like between Claus Road and SR 108/120. Roundabouts are fairly new to the project area and non-existent within the rural community. The general perception is that roundabouts are unsafe, not just for motorists, but for bicyclists and pedestrians as well.

If roundabouts are constructed, public programs will need to be developed to educate motorists and non-motorists on how to drive roundabouts.

4. REDUCE ACCIDENT SEVERITY

Caltrans District 1 has reported significant accident severity reductions when a roundabout is constructed instead of a conventional intersection. In the "Roundabouts in the United States" informational PDF, reductions in crashes resulting in severe injury are significantly reduced, and in some cases the reductions are in the 60-80% range.

A signalized intersection does have injury reductions when compared to stop controlled intersections, but due to a similar configuration to the stop controlled intersection, roadside collisions resulting in severe injury are not eliminated.

5. & 6. IMPROVE PEDESTRIAN SAFETY AND IMPROVE BICYCLIST SAFETY

The improvements proposed for all build alternatives accommodate improvements that will add to pedestrian and bicyclist safety.

Traffic Signal

Pedestrian improvements include crossing improvements such as curb cut ramps, crossing signage, and crosswalk markings for crossing all legs of the intersection. It is anticipated that audio and visual crossing signage elements will be incorporated at each crossing. This will not only queue regular pedestrians as to when it is safe to cross but these improvements will also help the visually impaired in turn improving pedestrian safety. Bicycle traffic is handled via standard bike lane signage and striping at intersections allowing bicyclists a marked area to travel in.

Two Lane Roundabout

Pedestrian improvements include crossing improvements similar to the signalized intersection but add additional pedestrian safety enhancements such as refuge islands for pedestrians crossing any of the legs of the intersection. Although, audio crossing elements for the visually impaired are not usually planned at each pedestrian crossing, it can be researched. One of the major safety elements the roundabout has over the signalized intersection is the landscaped buffer area located between the roadway and pedestrian traveled way which will provide pedestrian traffic with a safer feeling as they travel through this intersection. Although some bicyclists may prefer to maneuver through travel lanes, the large sidewalks and bike ramps located prior to the roundabout allow bicycle traffic to move from the roadway and use the crosswalks for crossing if they do not want to travel into the roundabout.

Three Lane Roundabout

Depending on the number of approach and exist lanes at each leg, the three lane roundabout can be more difficult for pedestrians due to the wider crossing distance. Based on existing data for similar facilities around the country, three lane roundabouts are typically more difficult for bicyclists to maneuver if they remain on the through lanes. Most avid bicyclists will use the travel lanes at all times. However, the large sidewalks and bike ramps located prior to the roundabout allow bicycle traffic to move from the roadway and use the crosswalks for crossing if they do not want to travel into the roundabout.

Due to the wider pavement area motorists tend to travel at faster speeds which could make it unsafe, not just for motorists, but pedestrians and bicyclists too. In addition, because of driver unfamiliarity, not just with three lane roundabouts, but with roundabouts in general, the added lanes can cause both drivers and bicyclists to change lanes unexpectedly and cause more accidents. The three lane roundabout will need to be carefully designed with appropriate entrance and exit geometry to require motorists to slow down prior to entering the roundabout. Placement of enter island, curbs, signage and other features will also need to be considered carefully. With driver unfamiliarity and large footprint, a three lane roundabout can be unsafe.

7. IMPROVE LEVEL OF SERVICE

Refer to **Table 1 – ICE Traffic Operations Comparison (Year 2042)** for a detailed comparison of each location between a traffic signal and a roundabout. In all cases a roundabout would either provide the same overall level of service as a traffic signal or would provide improve the level of service.

8. MINIMIZE QUEUES

Refer to **Table 1 – ICE Traffic Operations Comparison (Year 2042)** for a detailed comparison of each location between a traffic signal and a roundabout. With the exception of the NCC/Claus Road intersection a roundabout would result in lower vehicle queues. At the NCC/Claus Road intersection the overall level of service is D; however, the eastbound approach is projected to operate at LOS F; thus, the higher vehicle queue.

9. VEHICLE HOURS TRAVELED (VHT)

Refer to **Table 1 – ICE Traffic Operations Comparison (Year 2042)** for a detailed comparison of each location between a traffic signal and a roundabout. In all cases a roundabout would result in lower VHT than a traffic signal.

10. VEHICLE HOURS OF DELAY (VHD)

Refer to **Table 1 – ICE Traffic Operations Comparison (Year 2042)** for a detailed comparison of each location between a traffic signal and a roundabout. In all cases a roundabout would result in lower VHD than a traffic signal.

11. CREATE GAP IN TRAFFIC (for driveway access)

Cycle times for a proposed signal can allow for gaps in the traffic which will provide pockets for

traffic waiting in nearby driveways to enter into the roadway and continue to their desired destinations. The roundabout will potentially provide larger gaps in traffic as the variety of possible traveled paths and the time required for drivers to navigate the circle is a bit longer creating more gap opportunities for drivers waiting to enter the roadway.

12. ACCOMMODATE STAA TRUCKS

All build alternatives for both signalized intersections and roundabouts were laid out to accommodate STAA Truck movements through the intersection.

The roundabout alternatives use a series of radii and a truck can drive over the apron to accommodate STAA Truck movements through the intersection.

The signalized intersection uses larger radius curb returns to accommodate STAA truck turning movements.

13. MINIMIZE RIGHT OF WAY IMPACTS

The improvement footprints for all intersections whether they are constructed as a signal or constructed as a roundabout are anticipated to be similar. However, the improvement footprints for a three lane roundabout are anticipated to be slightly larger. The improvements for all alternatives are located within both urban area and agricultural farmland area. Within the urban area, the improvements encompass the existing right of way and require additional right of way. Within the agricultural farmland area, the bulk of the improvements require new right of way. The construction envelops for all project alternatives maximize the use of the existing right of way whenever possible. It is expected that the right of way impacts will be significant given the project construction envelope location for either a signalized intersection or roundabout. The number and type of parcels impacted and full or partial right of way takes are anticipated to be almost equal for construction of signalized intersections or roundabouts.

Traffic Signal

The right of way of signalized intersections and two lane roundabouts will be very similar. Due to the proposed median width, the footprint would be very close for both therefore impacts to right of way would also be similar.

Two Lane Roundabout

The right of way of signalized intersections and two lane roundabouts will be very similar. Roundabouts generally would require a larger footprint. However, due to the proposed median width and large intersections, the footprint would be very close for both therefore impacts to right of way would also be similar.

Three Lane Roundabout

A three lane roundabout would require additional footprint area than a signalized intersection or a two lane roundabout due to the additional pavement and grading for the bypass lanes. This is assuming that the inscribed radius of a three lane roundabout is equal to that of a two lane

roundabout.

14. REDUCE EMISSIONS

The following is an excerpt from *NCHRP Report 672 Roundabouts: An Informational Guide Second Edition.*

> *Roundabouts can provide environmental benefits if they reduce vehicle delay and the number an duration of stops compared with an alternative. Even when there are heavy volumes, vehicles continue to advance slowly in moving queues rather than coming to a complete stop. This may reduce noise and* ***air quality impacts*** *and fuel consumption significantly by reducing the number of acceleration/deceleration cycles and the time spent idling.*

As shown in **Table 1 – ICE Traffic Operations Comparison (Year 2042)** at all locations a roundabout would result in overall less delay at the intersection. As a result, lower emissions would be expected at each location with a roundabout than a traffic signal.

15. MINIMIZE ENVIRONMENTAL IMPACTS

The improvement footprints for all intersections whether they be the construction of a signal or construction of a roundabout are anticipated to be similar. However, the improvement footprints for three lane roundabouts are anticipated to be slightly larger. Significant differences in impacts to biological and cultural features between a signalized intersection and a roundabout are not anticipated. Caltrans environmental staff has reviewed the draft technical studies that will be required prior to the approval of the EIR/EIS or the project. The required studies will be finalized as the project moves forward. The improvements for all alternatives are located within both urban area and agricultural farmland area. Within the urban area, the improvements encompass the existing right of way and require additional right of way. Within the agricultural farmland area, the bulk of the improvements require new right of way. It is expected that the environmental impacts will be significant given the project construction envelope location. Many farmland areas adjacent to the project have been previously disturbed and typically go through a seasonal clearing and grubbing process by property owners. Within the project envelope, the remaining land will be disturbed by the proposed improvements with either a roundabout or a signalized intersection. The number and type of parcels impacted and full or partial right of way takes are anticipated to be almost equal for construction of signalized intersections or roundabouts.

16. ACCOMMODATE ACCESS TO SURROUNDING PROPERTIES

All build alternatives including signalized intersections and roundabouts will provide adequate access to surrounding properties. The project also proposes to eliminate driveway access onto the main NCC facility for properties within the project construction envelopes. Driveways are proposed to be reduced along the main cross streets near the NCC access control limits. Along the cross streets, some of the driveway approaches that remain will be changed to right-in-right out access in order to facilitate traffic movements in the area. Cross streets will provide access to the NCC at interchanges and major intersections. Local access to major cross streets will be provided via frontage road systems to surrounding properties. In addition, overcrossings and undercrossings that tie into the existing roadway network are proposed to cross over or under the NCC.

17. PROVIDE AESTHETIC OPPORTUNITIES

The aesthetic opportunities vary greatly between the two construction alternatives being considered for Although both include decorative features, landscaping, and pedestrian improvements the roundabout due to its layout is much more aesthetically pleasing and provides the community the opportunity to construct an iconic gateway monument providing the community an opportunity to showcase its local culture through an architectural feature.

Traffic Signal

The construction of signal improvements will include areas of pavement widening, pedestrian improvements, along with limited landscaping which will have some positive impact on the overall look of the intersection. The landscaping improvements are anticipated to include the planting of trees where possible along each leg of the intersection as well as small spans of grass or drought tolerant ground cover running parallel with the roadway within the project area. There will also be some opportunities to incorporate some decorative lighting at various locations within the project area.

Two Lane Roundabout

The roundabout will provide far greater opportunities to improve the overall aesthetics of the intersection. Its layout provides large areas of open areas for landscaping while minimizing the visual appearance of pavement which is typically not as appealing. Some of the aesthetic opportunities this of alternative include decorative lighting, monumentation, trees, drought tolerant landscaping, and community signage.

Three Lane Roundabout

Similar to the two lane roundabout, the three lane roundabout will also provide greater opportunities to improve the overall aesthetics of the intersection. However, due to the wider pavement footprint, the three lane roundabout may not be as appealing.

18. REDUCE MAINTENANCE COSTS

Approximate annual maintenance costs associated with all build alternatives have been quantified as follows:

MAINTENANCE COSTS-Signal .vs. Roundabout			
Signal			
Electrical and Minor Maintenance	$1,000/month	or	$12,000/yr
Roundabout			
Landscaping/Irrigation System and Misc.	$500/month	or	$6,000/yr

These approximate maintenance costs assume no equipment replacement needs are required due to damage from accidents, weather, etc.

19. RECEIVED PUBLIC/STAKEHOLDER SUPPORT

Based on public input received at public information meetings, one-on-one property owner meetings, city council meetings, NCCTEA board meetings and other public forums, the general public favors the construction of signalized intersections instead of roundabouts.

Traffic Signal

Most of the general public is in favor of constructing the project with signalized intersections because of familiarity with this type of control.

Two Lane Roundabout

The general public is not familiar with driving roundabouts, especially out in the rural areas. Roundabouts are fairly new to the project area and non-existent within the rural community. The community is concerned that local travel patterns will not be accommodated with roundabouts. In addition, expectations are very low that roundabouts will operate better than a signalized intersection. The general perception is that roundabouts are unsafe, not just for motorists, but for bicyclists and pedestrians as well.

If roundabouts are constructed, public programs will need to be developed to educate motorists and non-motorists on how to drive roundabouts.

The proposed roundabouts connecting NCC with SR 108/120 appear to have some support because they would be constructed at the termini of the NCC corridor. Isolated roundabouts between Claus Road and SR 108/120 are not supported by the general public/stakeholders.

Three Lane Roundabout

Given the public opposition on two-lane roundabouts, three lane roundabouts are not supported.

20. REDUCE FUEL CONSUMPTION

The following is an excerpt from *NCHRP Report 672 Roundabouts: An Informational Guide Second Edition.*

> *Roundabouts can provide environmental benefits if they reduce vehicle delay and the number an duration of stops compared with an alternative. Even when there are heavy volumes, vehicles continue to advance slowly in moving queues rather than coming to a complete stop. This may reduce noise and air quality impacts and* ***fuel consumption*** *significantly by reducing the number of acceleration/deceleration cycles and the time spent idling.*

As shown in **Table 1 – ICE Traffic Operations Comparison (Year 2042)** at all locations a roundabout would result in overall less delay at the intersection. As a result, lower fuel consumption would be expected at each location with a roundabout than a traffic signal.

ATTACHMENTS

- Location Map
- Table 1 – ICE Traffic Operations Comparison (Year 2042)
- Geometric Concepts

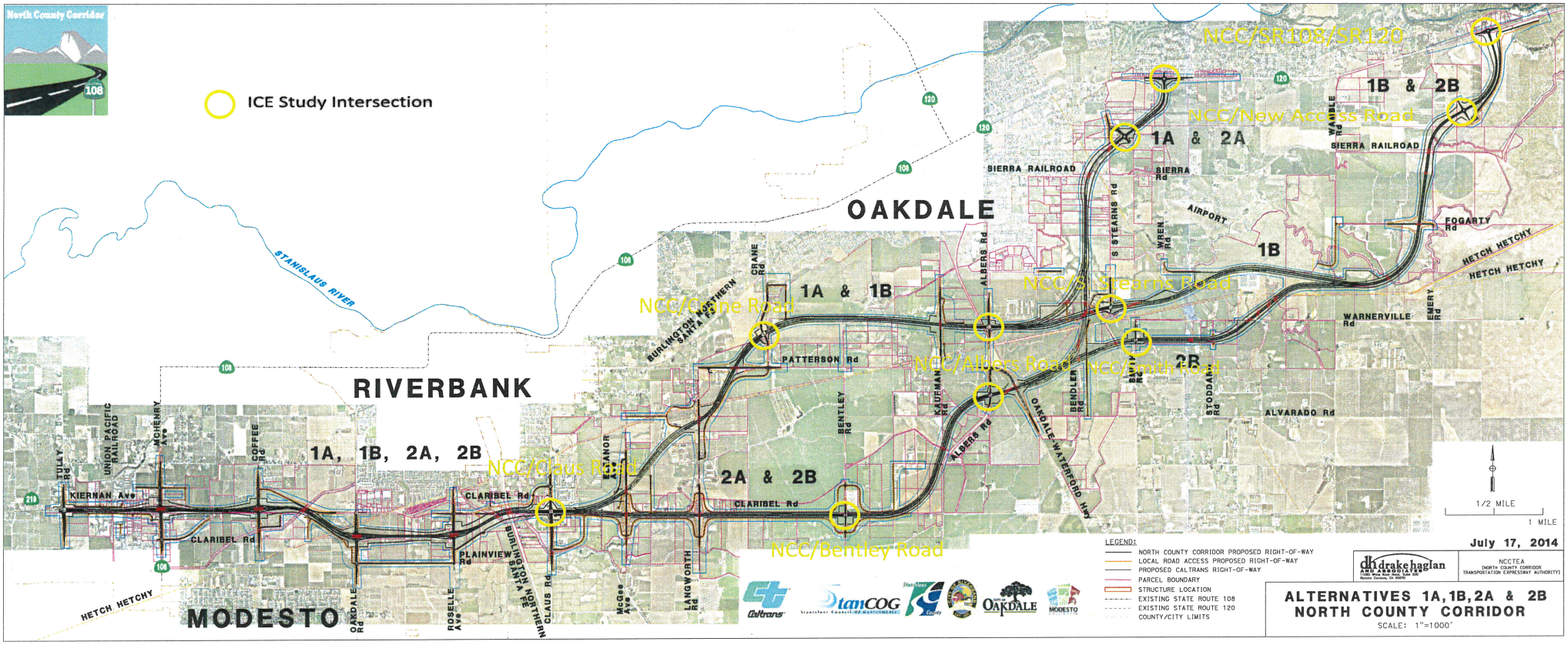
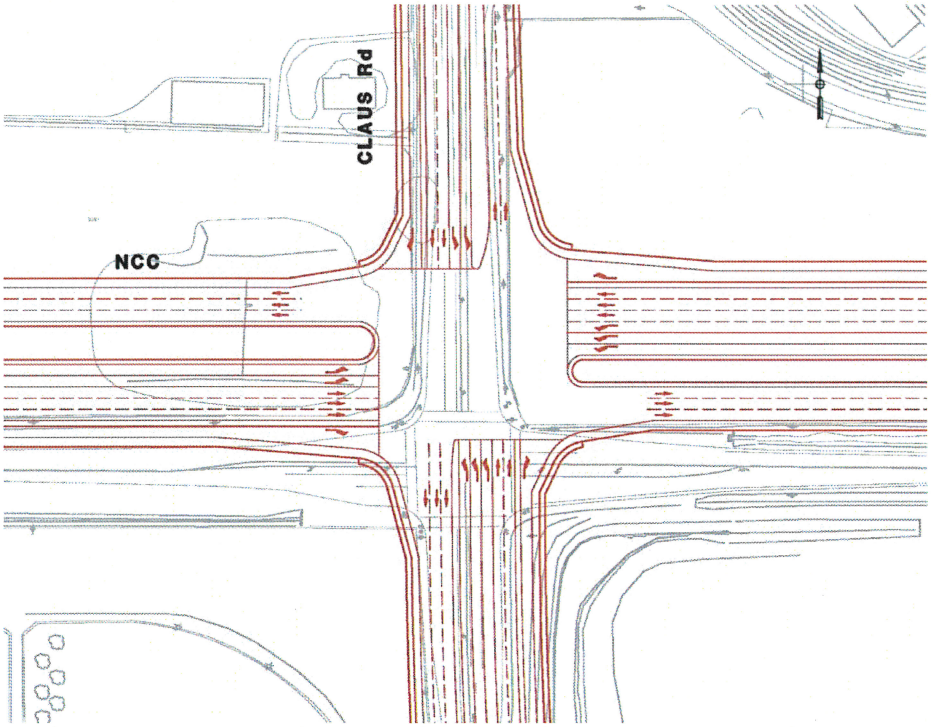

North County Corridor
108
ICE Study Intersection
STANISLAUS RIVER
OAKDALE
RIVERBANK
MODESTO
1A & 1B
1A, 1B, 2A, 2B
2A & 2B
1A & 2A
1B & 2B
1B
2B
NCC/SR108/SR120
NCC/New Access Road
NCC/Crane Road
NCC/Stearns Road
NCC/Albers Road
NCC/Claus Road
NCC/Bentley Road
SIERRA RAILROAD
SIERRA Rd
AIRPORT
WAUBLE Rd
FOGARTY Rd
HETCH HETCHY
WARNERVILLE Rd
EMERY Rd
ALVARADO Rd
S STEARNS Rd
WREN Rd
STODDARD Rd
BENDLEN Rd
BUTTS Rd
OAKDALE-WATERFORD HWY
ALBERS Rd
KAUFMAN Rd
BENTLEY Rd
CRANE Rd
BURLINGTON NORTHERN SANTA FE
PATTERSON Rd
CLARIBEL Rd
ESTANOR Ave
CLAUS Rd
McGee Ave
LANGWORTH Rd
PLAINVIEW Rd
ROSELLE Ave
OAKDALE Rd
COFFEE Rd
MCHENRY Ave
UNION PACIFIC RAILROAD
TULLY Rd
KIERNAN Ave
219
LEGEND:
NORTH COUNTY CORRIDOR PROPOSED RIGHT-OF-WAY
LOCAL ROAD ACCESS PROPOSED RIGHT-OF-WAY
PROPOSED CALTRANS RIGHT-OF-WAY
PARCEL BOUNDARY
STRUCTURE LOCATION
EXISTING STATE ROUTE 108
EXISTING STATE ROUTE 120
COUNTY/CITY LIMITS
1/2 MILE
1 MILE
July 17, 2014
drakehaglan AND ASSOCIATES
NCCTEA
(NORTH COUNTY CORRIDOR TRANSPORTATION EXPRESSWAY AUTHORITY)
ALTERNATIVES 1A,1B,2A & 2B
NORTH COUNTY CORRIDOR
SCALE: 1"=1000'

Table 1
ICE Traffic Operations Comparison
(Year 2042)

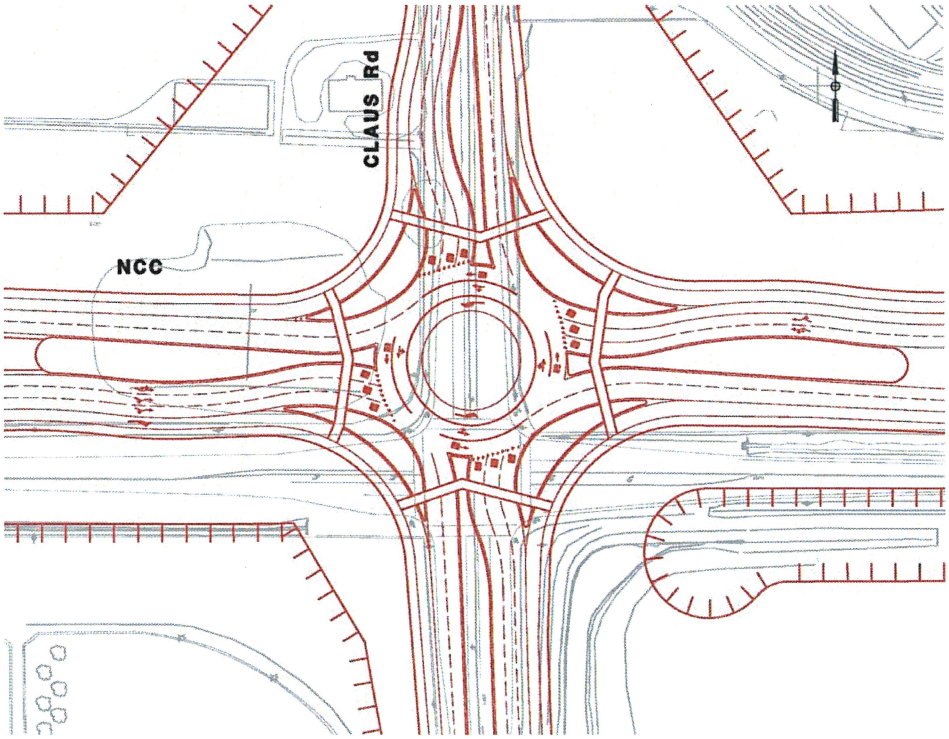
TABLE 1 - ICE TRAFFIC OPERATIONS COMPARISON (YEAR 2042)				
Intersection	Criteria	Traffic Signal	2- Lane Roundabout	3- Lane Roundabout
NCC/Claus Road[1]	VHT	113.4	*Does not provide acceptable operations*	69.6
	VHD	90.8		47.0
	Max Queue	542		1050
	LOS	D		D
NCC/Crane Road	VHT	59.6	*Does not provide acceptable operations*	31.3
	VHD	41.2		13.0
	Max Queue	404		499
	LOS	C		B
NCC/Albers	VHT	64.9	*Does not provide acceptable operations*	23.2
	VHD	47.7		6.0
	Max Queue	913		94
	LOS	C		A
NCC/Stearns Road	VHT	19.6	15.0	*Two-lane roundabout provides acceptable service levels*
	VHD	9.0	4.4	
	Max Queue	183	70	
	LOS	B	A	
NCC/SR 120/SR 108	VHT	16.5	10.8	*Two-lane roundabout provides acceptable service levels*
	VHD	9.3	3.5	
	Max Queue	203	76	
	LOS	B	A	
NCC/Bentley Road	VHT	44.4	17.9	*Two-lane roundabout provides acceptable service levels*
	VHD	30.6	4.0	
	Max Queue	451	193	
	LOS	C	A	
NCC/Smith Road	VHT	11.4	8.9	*Two-lane roundabout provides acceptable service levels*
	VHD	4.43	1.92	
	Max Queue	142	36	
	LOS	B	A	
NCC/New Access Road	VHT	7.4	7.2	*Two-lane roundabout provides acceptable service levels*
	VHD	1.4	1.21	
	Max Queue	63	28	
	LOS	A	A	

1. Although the NCC/Claus intersection operates overall at LOS D the eastbound approach would operate at LOS F. All approaches are expected to operate at acceptable service levels until year 2037.
2. Traffic Criteria shown above is for alternative with worse case scenario.

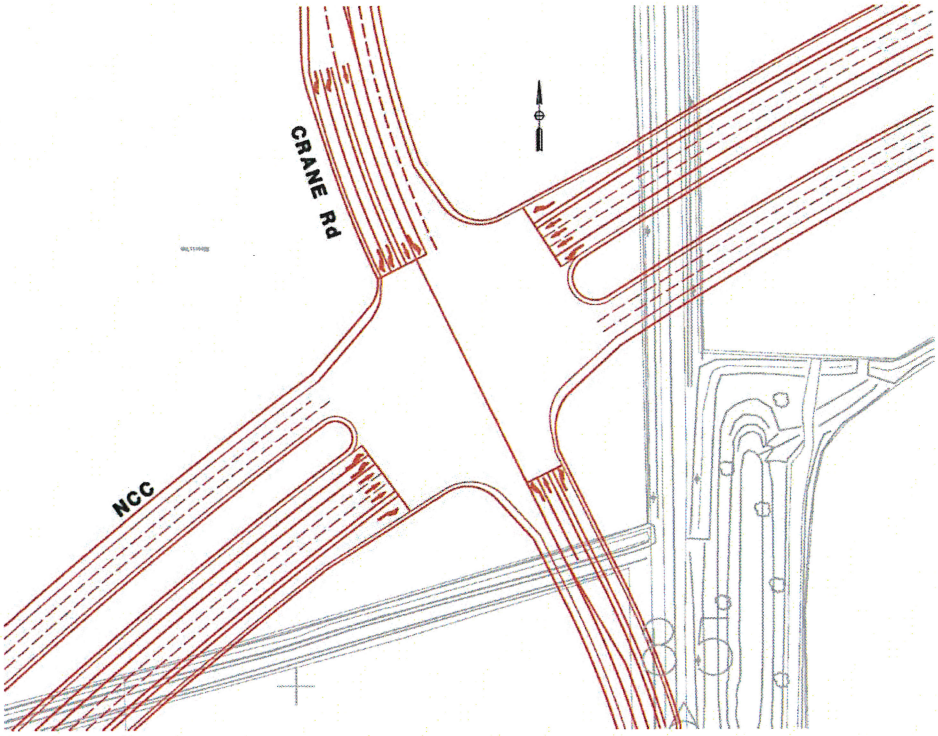
GEOMETRIC CONCEPTS



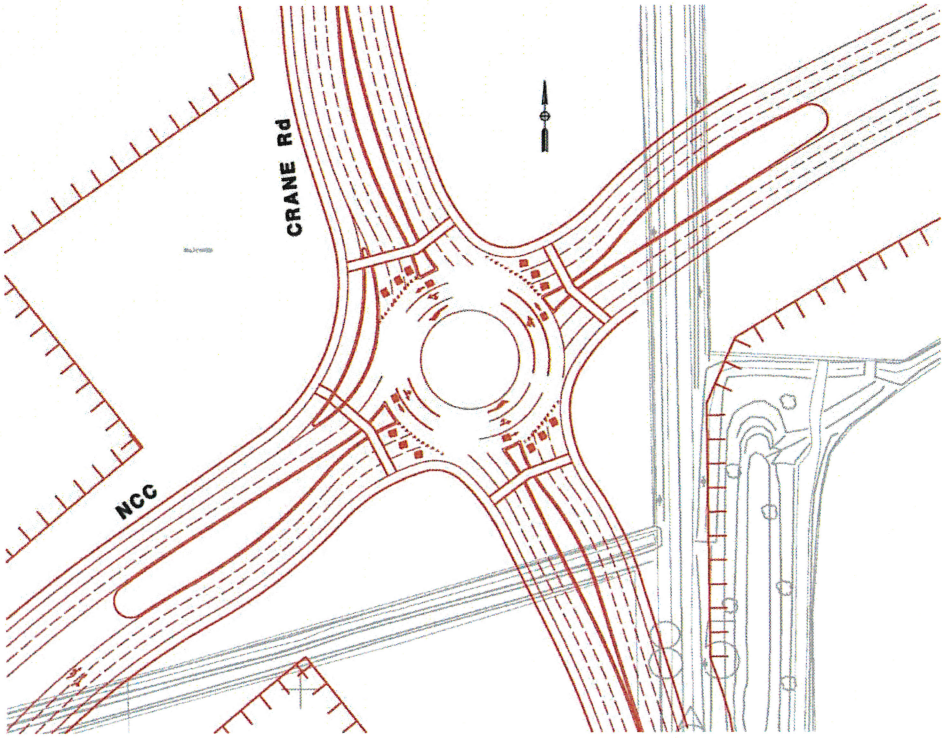
CLAUS ROAD SIGNALIZED INTERSECTION (ALL ALTERNATIVES)



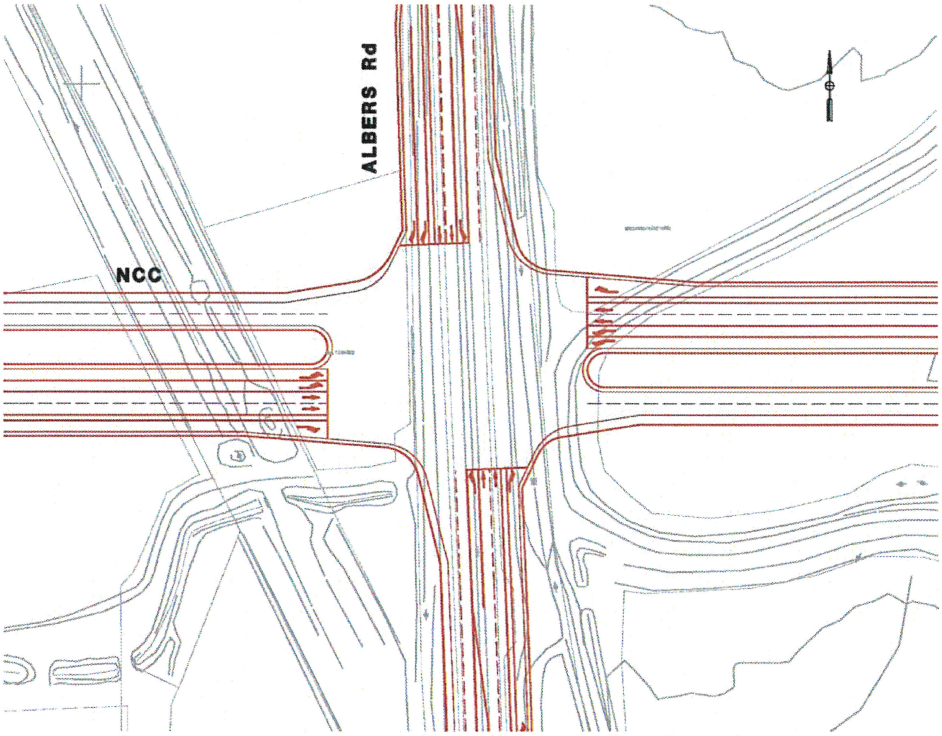
CLAUS ROAD 3-LANE ROUNDABOUT (ALL ALTERNATIVES)



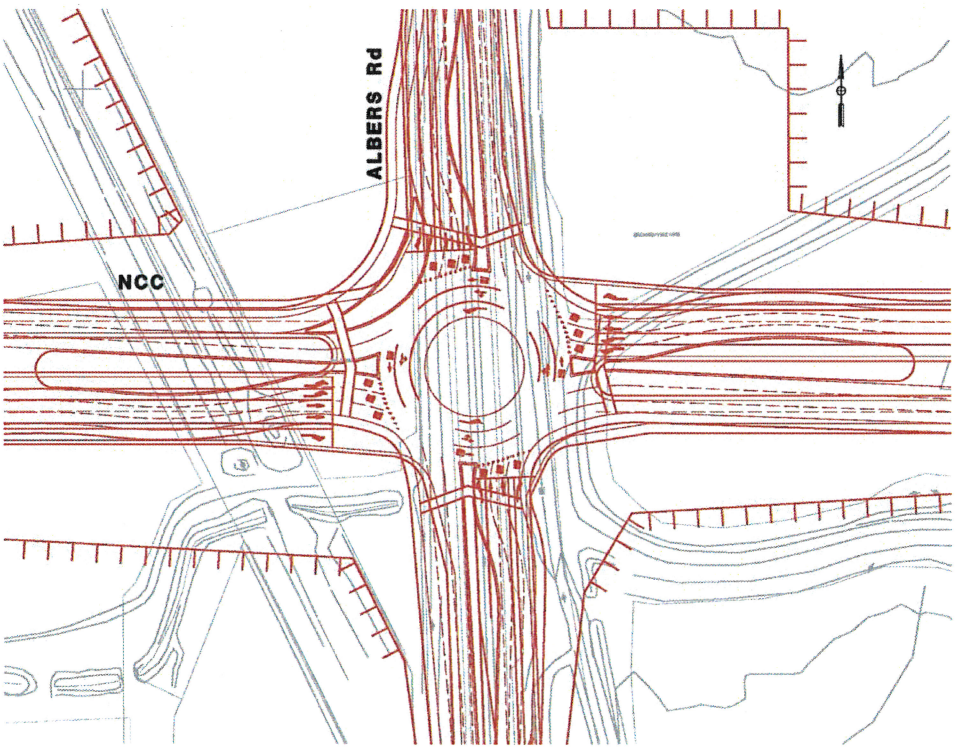
CRANE ROAD SIGNALIZED INTERSECTION (ALTERNATIVES 1A & 1B)



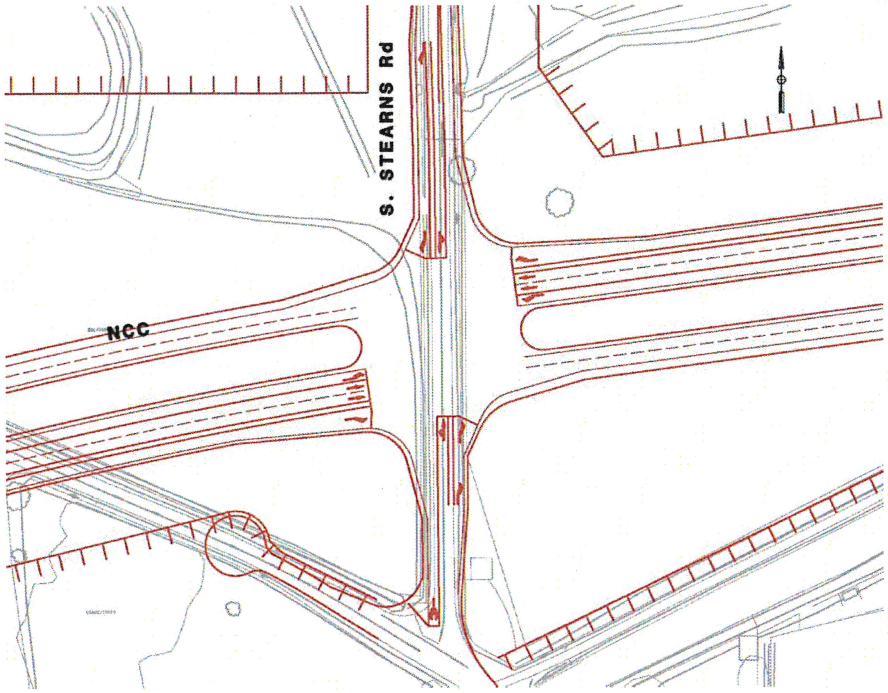
CRANE ROAD 3-LANE ROUNDBOUT (ALTERNATIVES 1A & 1B)



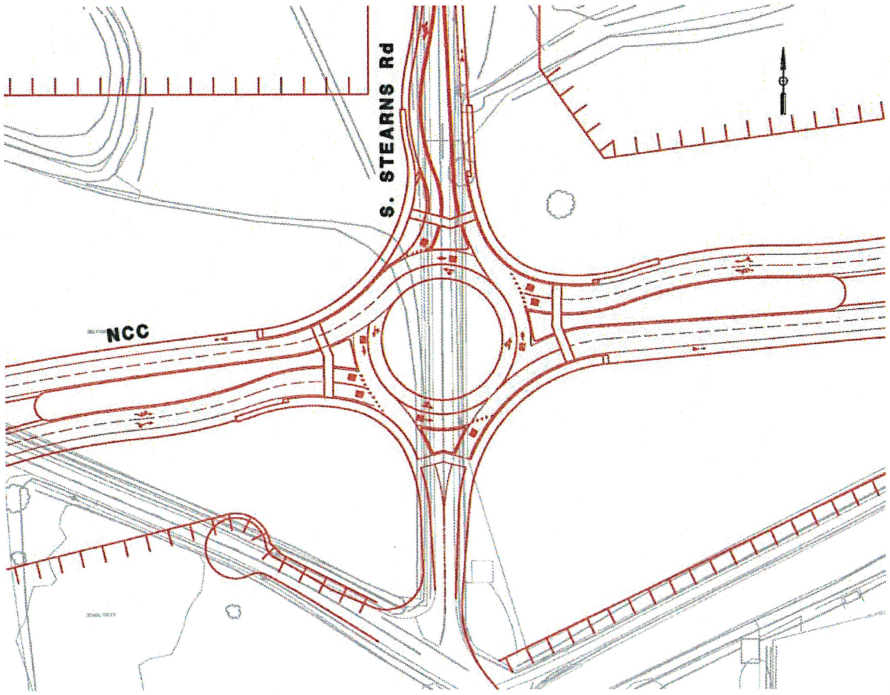
ALBERS ROAD SIGNALIZED INTERSECTION (All Alternatives)



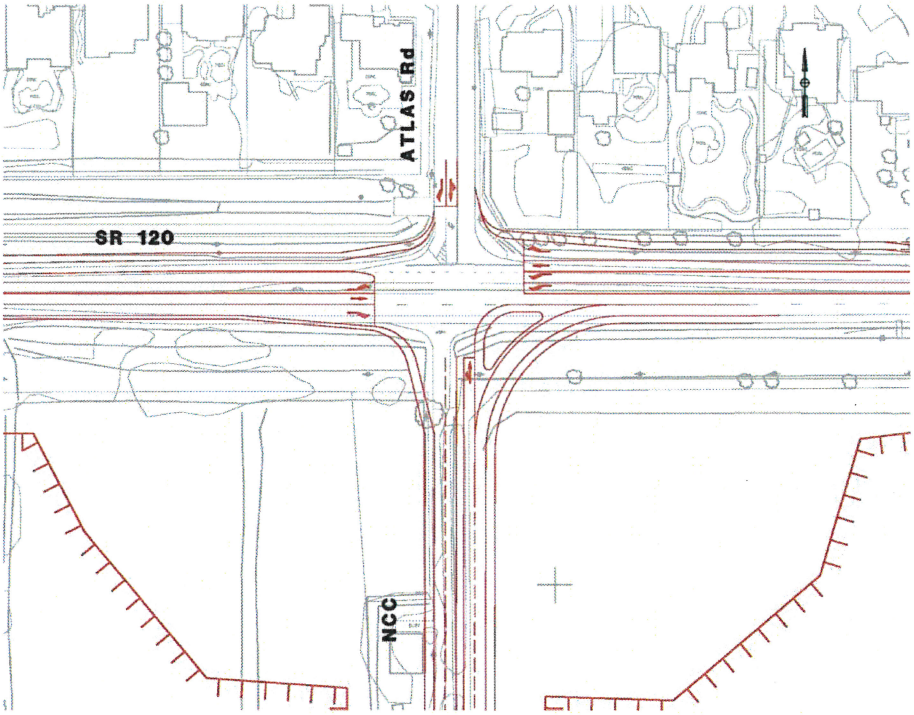
ALBERS ROAD 3-LANE ROUNDABOUT (All Alternatives)



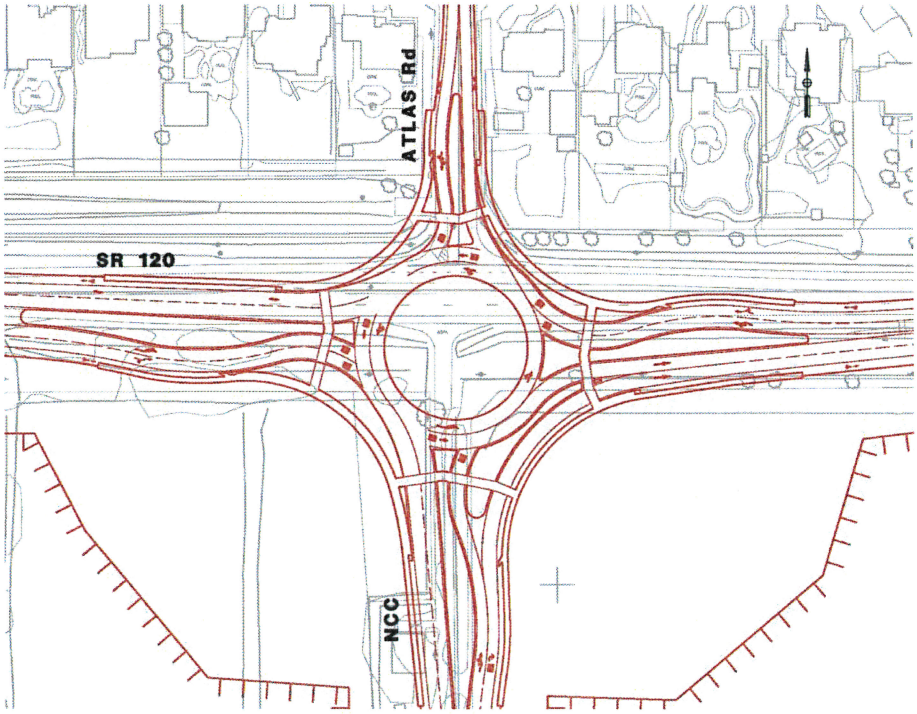
S STEARNS ROAD SIGNALIZED INTERSECTION (ALTERNATIVE 1B)



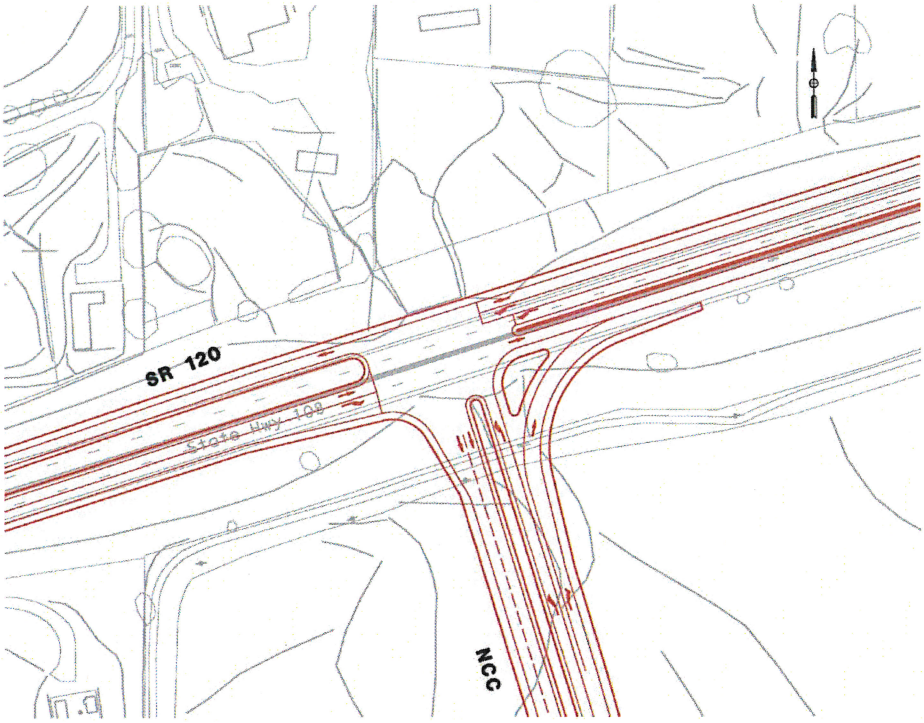
S STEARNS ROAD 2-LANE ROUNDABOUT (ALTERNATIVE 1B)



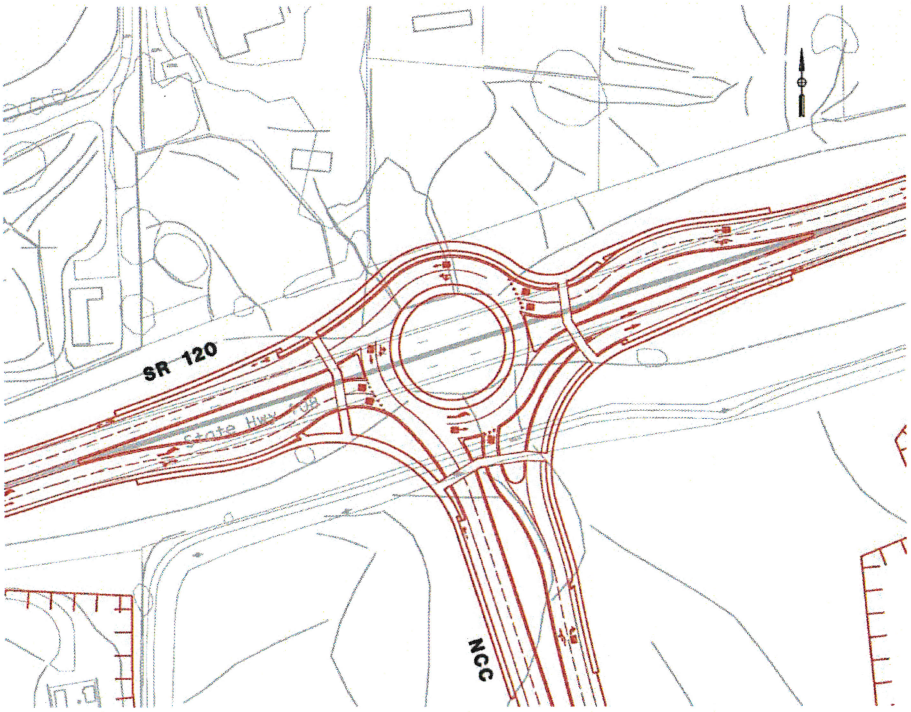
SR 108/120 SIGNALIZED INTERSECTION (ALTERNATIVES 1A & 2A)



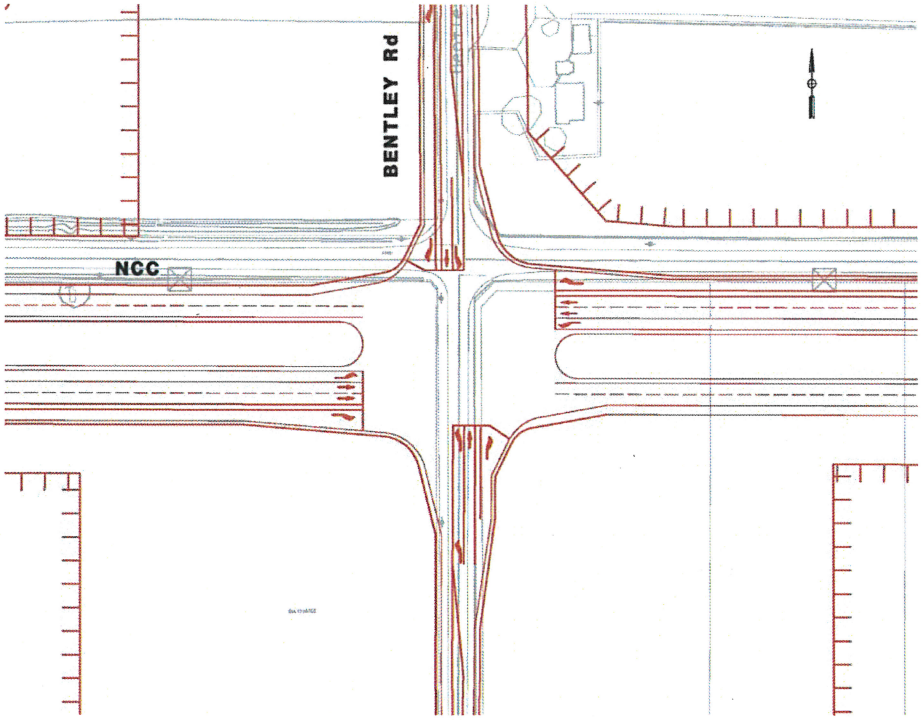
SR 108/120 2-LANE ROUNDABOUT (ALTERNATIVES 1A & 2A)



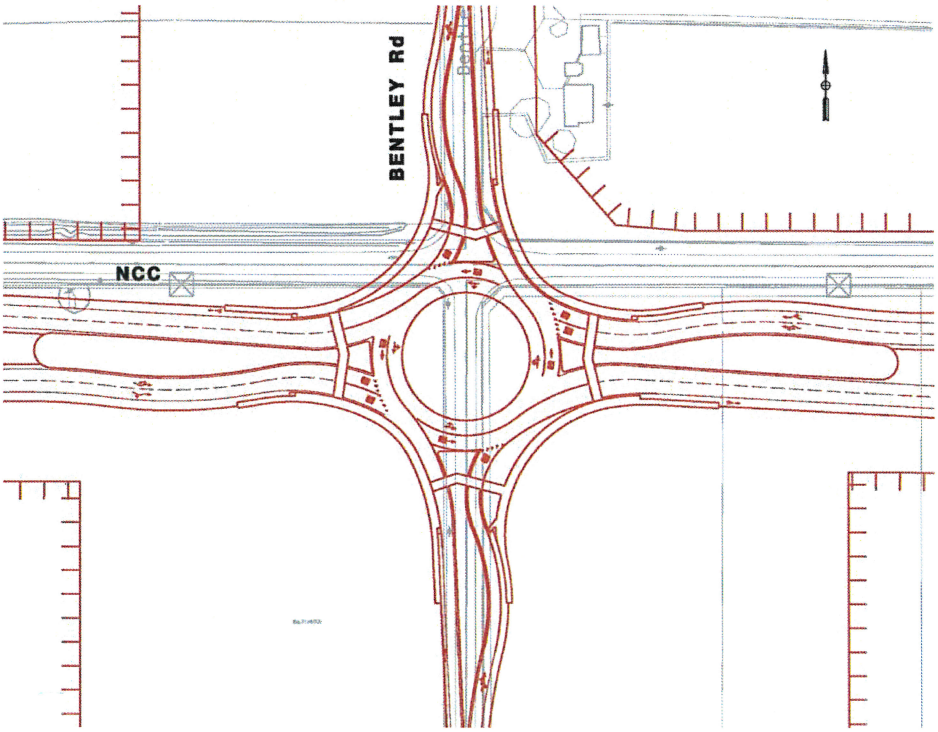
SR 108/120 SIGNALIZED INTERSECTION (ALTERNATIVES 1B & 2B)



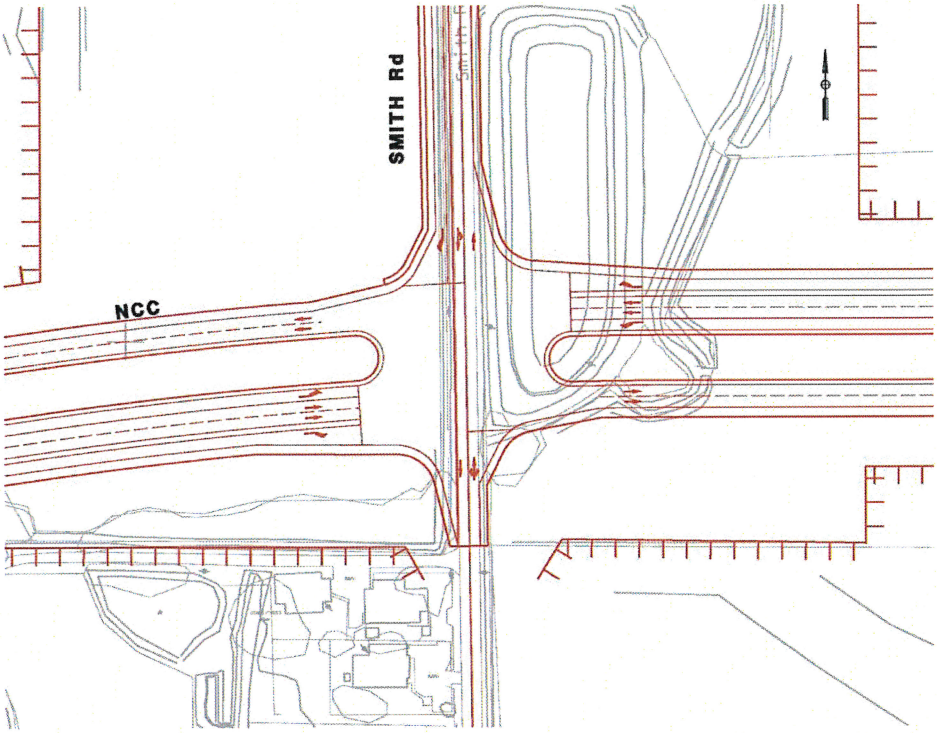
SR 108/120 2-LANE ROUNDABOUT (ALTERNATIVES 1B & 2B)



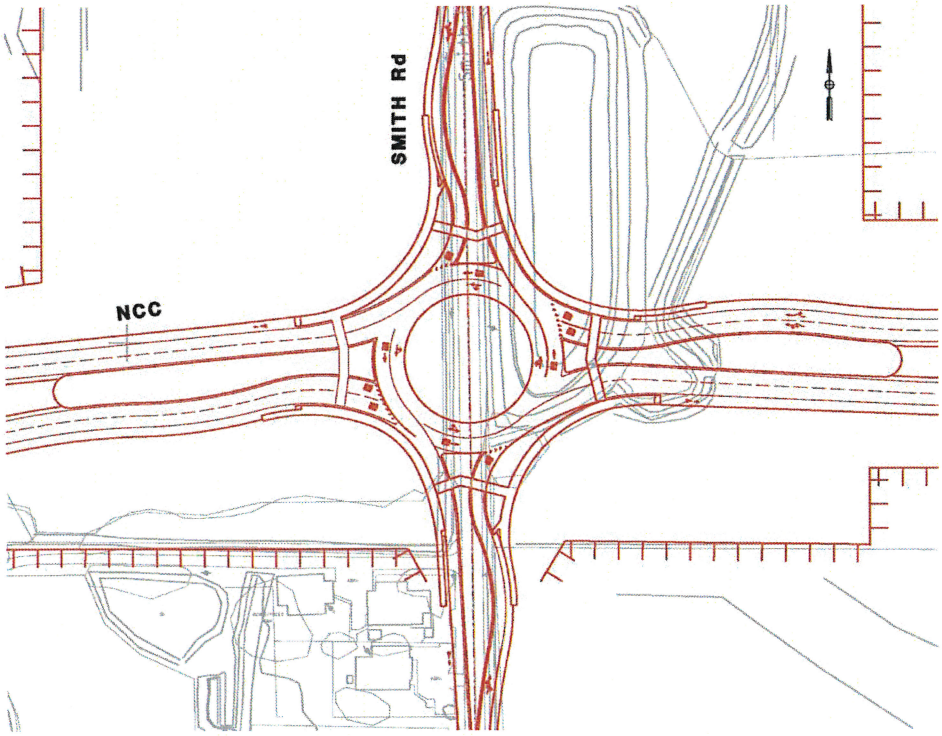
BENTLEY ROAD SIGNALIZED INTERSECTION (ALTERNATIVES 2A & 2B)



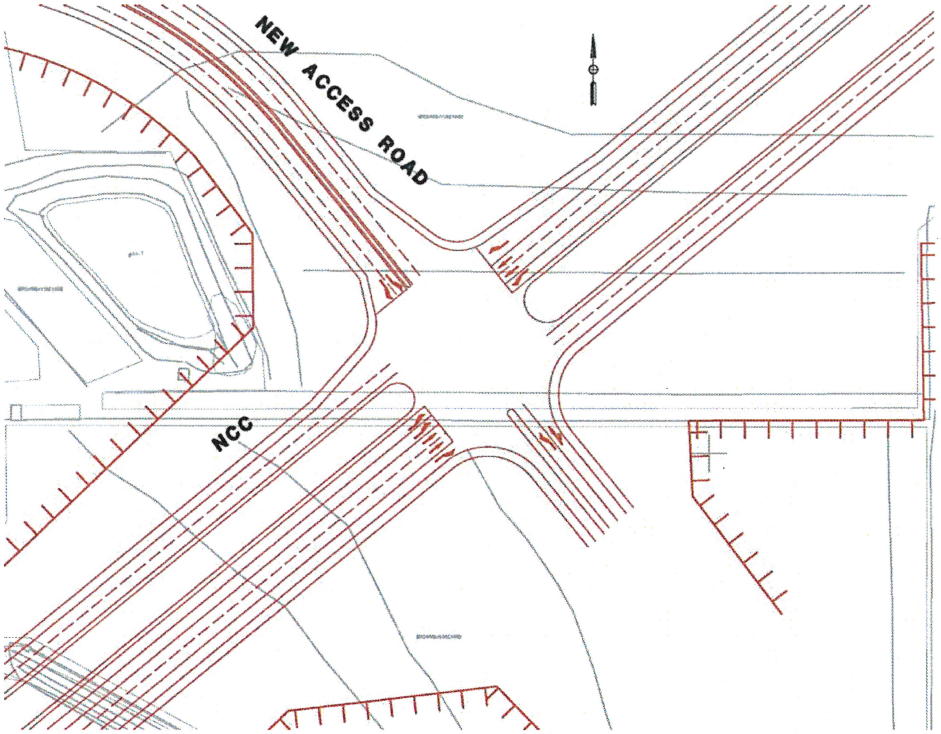
BENTLEY ROAD 2-LANE ROUNDABOUT (ALTERNATIVES 2A & 2B)



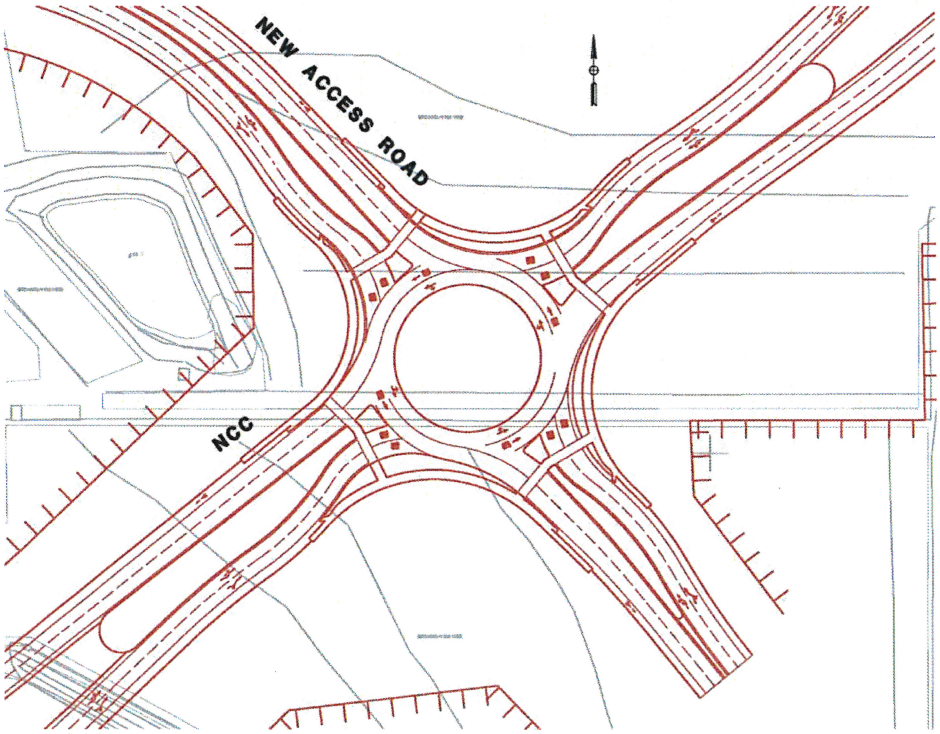
SMITH ROAD SIGNALIZED INTERSECTION (ALTERNATIVE 2A & 2B)



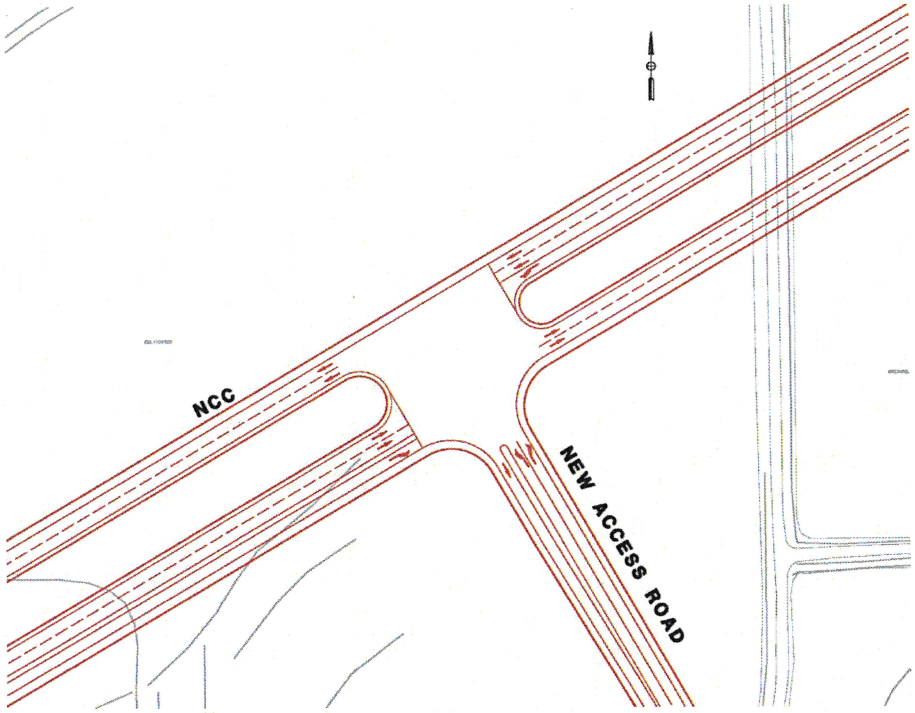
SMITH ROAD 2-LANE ROUNDABOUT (ALTERNATIVES 2A & 2B)



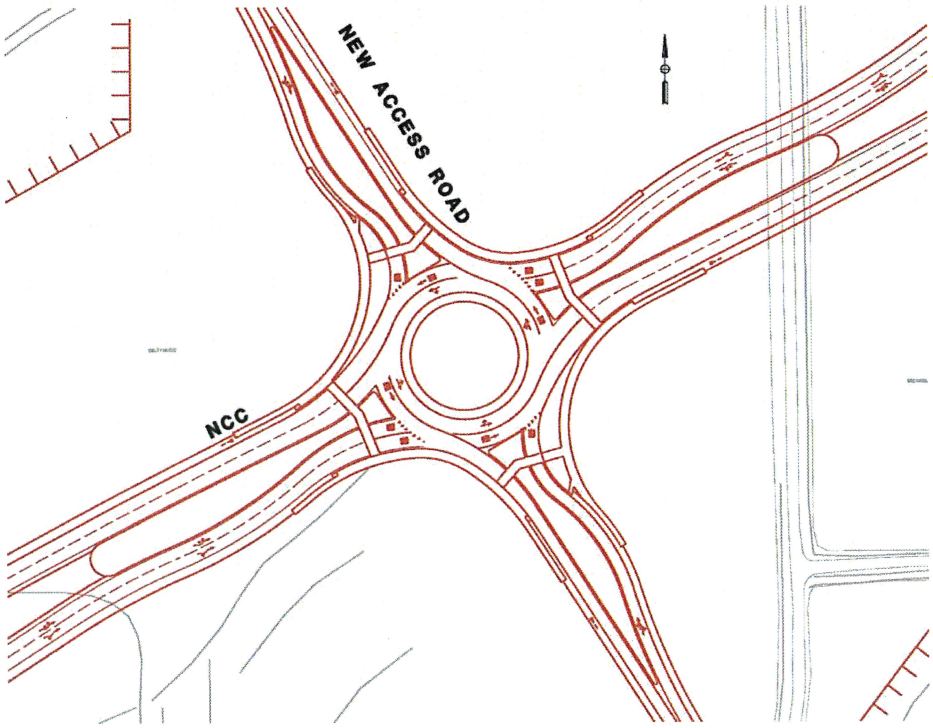
NEW ACCESS ROAD (AT STEARNS) SIGNALIZED INTERSECTION (ALTERNATIVES 1A & 2A)



NEW ACCESS ROAD (AT STEARNS) 2-LANE ROUNDABOUT (ALTERNATIVES 1A & 2A)



NEW ACCESS ROAD SIGNALIZED INTERSECTION (ALTERNATIVES 1B & 2B)



NEW ACCESS ROAD 2-LANE ROUNDABOUT (ALTERNATIVES 1B & 2B)

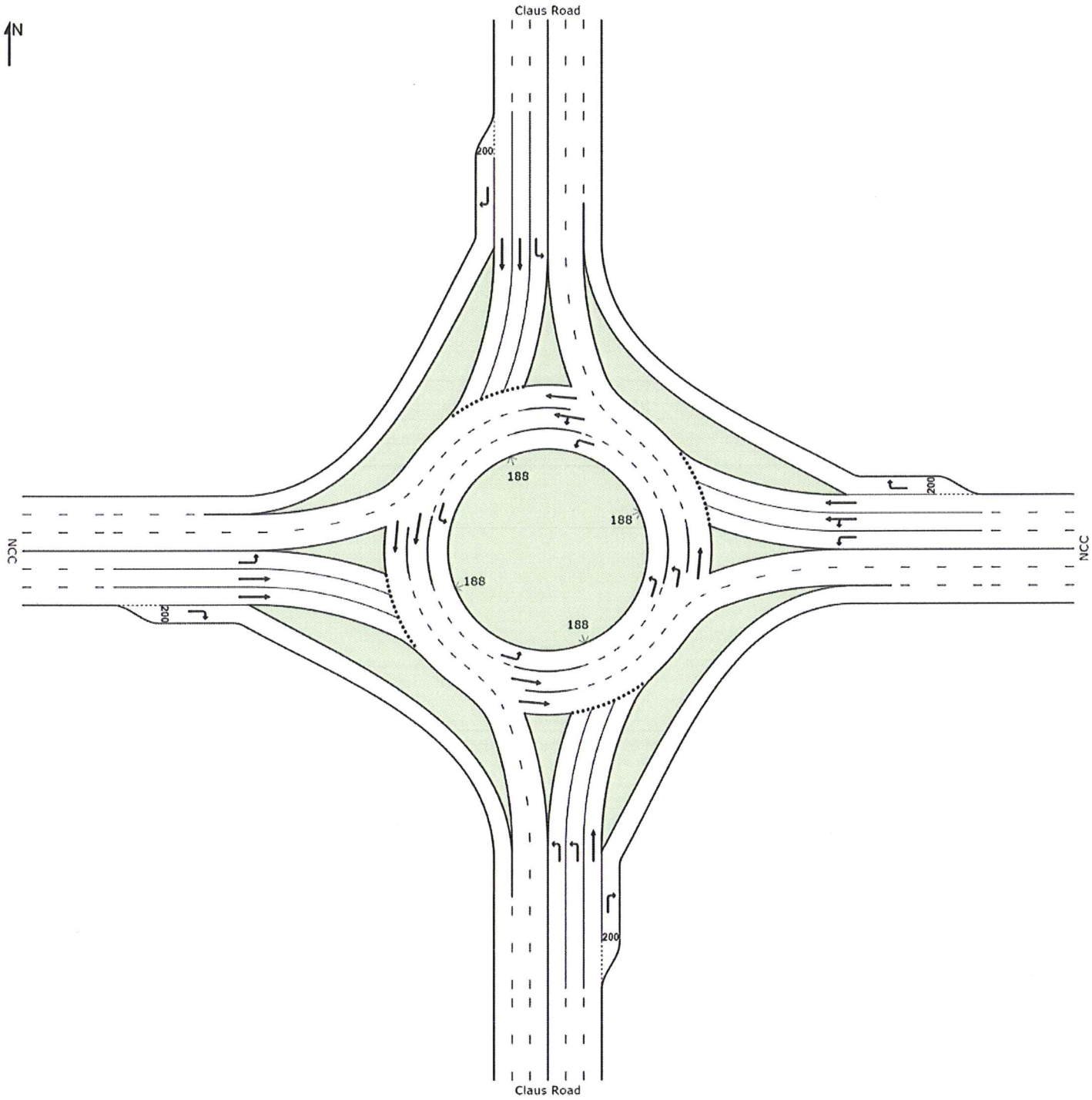
ICE TRAFFIC OPERATIONS COMPARISON (YEAR 2042)				
Intersection	Criteria	Traffic Signal	2- Lane Roundabout	3- Lane Roundabout
NCC/Claus Road[1]	VHT	113.4	*Does not provide acceptable operations*	69.6
	VHD	90.8		47.0
	Max Queue	542		1050
	LOS	D		D
NCC/Crane Road	VHT	59.6	*Does not provide acceptable operations*	31.3
	VHD	41.2		13.0
	Max Queue	404		499
	LOS	C		B
NCC/Albers	VHT	64.9	*Does not provide acceptable operations*	23.2
	VHD	47.7		6.0
	Max Queue	913		94
	LOS	C		A
NCC/Stearns Road	VHT	19.6	15.0	*Two-lane roundabout provides acceptable service levels*
	VHD	9.0	4.4	
	Max Queue	183	70	
	LOS	B	A	
NCC/SR 120/SR 108	VHT	16.5	10.8	*Two-lane roundabout provides acceptable service levels*
	VHD	9.3	3.5	
	Max Queue	203	76	
	LOS	B	A	
NCC/Bentley Road	VHT	44.4	17.9	*Two-lane roundabout provides acceptable service levels*
	VHD	30.6	4.0	
	Max Queue	451	193	
	LOS	C	A	
NCC/Smith Road	VHT	11.4	8.9	*Two-lane roundabout provides acceptable service levels*
	VHD	4.43	1.92	
	Max Queue	142	36	
	LOS	B	A	
NCC/New Access Road	VHT	7.4	7.2	*Two-lane roundabout provides acceptable service levels*
	VHD	1.4	1.21	
	Max Queue	63	28	
	LOS	A	A	

1. Although the NCC/Claus intersection operates overall at LOS D the eastbound approach would operate at LOS F. All approaches are expected to operate at acceptable service levels until year 2037.

SITE LAYOUT

Site: 16. NCC & Claus Road - Alt 1A PM_Year 2042 - SIDRA

16. NCC & Claus Road - Alt 1A PM_Year 2042
Roundabout



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INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

Site: 16. NCC & Claus Road - Alt 1A PM_Year 2042 - SIDRA

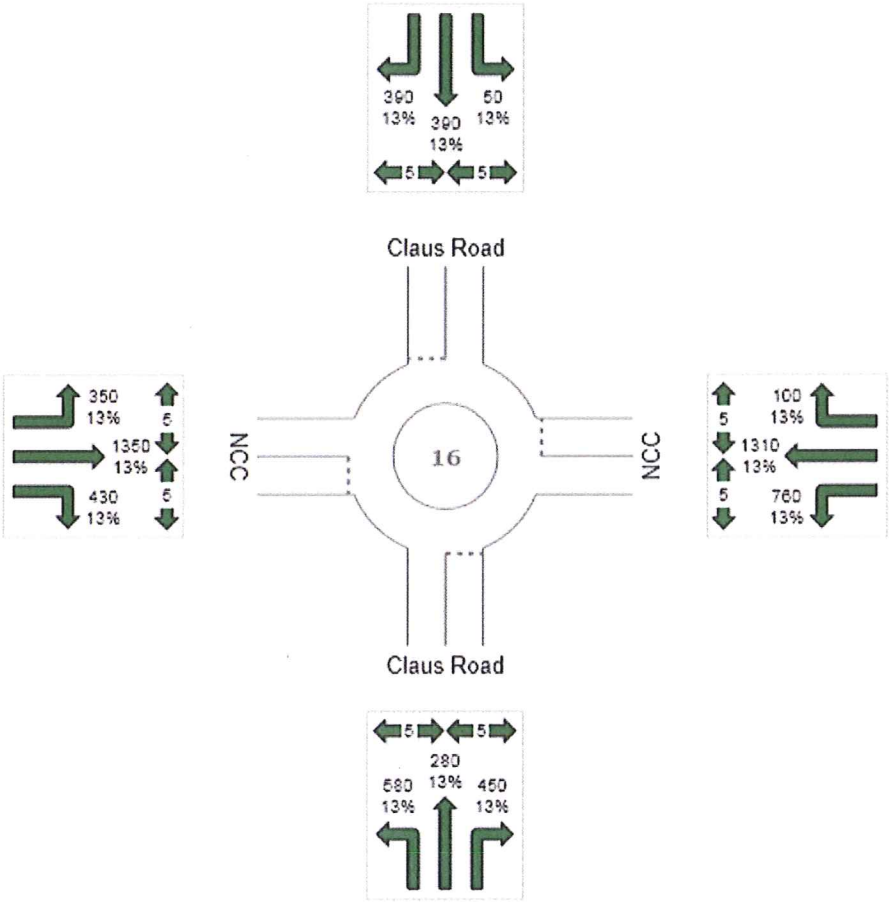
16. NCC & Claus Road - Alt 1A PM_Year 2042
Roundabout

Volume Display Method: Total and %

Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

- **All Movement Classes: 6440**
- **Light Vehicles (LV): 5603**
- **Heavy Vehicles (HV): 837**
- **Pedestrians: 40**



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MOVEMENT SUMMARY

Site: 16. NCC & Claus Road - Alt 1A PM_Year 2042 - SIDRA

16. NCC & Claus Road - Alt 1A PM_Year 2042
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Claus Road											
3	L2	611	13.0	0.681	17.7	LOS C	5.2	143.1	0.95	1.12	27.1
8	T1	295	13.0	0.837	17.8	LOS C	5.7	157.6	0.96	1.20	24.5
18	R2	474	13.0	0.320	1.0	LOS A	0.0	0.0	0.00	0.14	30.4
Approach		1379	13.0	0.837	12.0	LOS B	5.7	157.6	0.63	0.80	27.4
East: NCC											
1	L2	800	13.0	1.096	65.5	LOS F	28.2	777.7	1.00	2.60	17.8
6	T1	1379	13.0	1.096	56.6	LOS F	38.0	1049.9	1.00	2.83	17.4
16	R2	105	13.0	0.071	0.9	LOS A	0.0	0.0	0.00	0.14	30.5
Approach		2284	13.0	1.096	57.1	LOS F	38.0	1049.9	0.95	2.62	17.9
North: Claus Road											
7	L2	53	13.0	0.148	14.1	LOS B	0.7	18.0	0.87	0.93	28.2
4	T1	411	13.0	0.698	18.3	LOS C	4.0	110.3	0.93	1.12	24.3
14	R2	411	13.0	0.277	1.0	LOS A	0.0	0.0	0.00	0.14	30.5
Approach		874	13.0	0.698	9.9	LOS A	4.0	110.3	0.49	0.65	27.1
West: NCC											
5	L2	368	13.0	0.557	11.5	LOS B	3.1	84.8	0.78	0.97	29.1
2	T1	1421	13.0	0.914	12.5	LOS B	11.5	316.6	0.94	1.37	25.9
12	R2	453	13.0	0.305	1.0	LOS A	0.0	0.0	0.00	0.14	30.4
Approach		2242	13.0	0.914	10.0	LOS A	11.5	316.6	0.73	1.06	27.2
All Vehicles		6779	13.0	1.096	26.3	LOS D	38.0	1049.9	0.75	1.48	23.1

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

INTERSECTION SUMMARY

Site: 16. NCC & Claus Road - Alt 1A PM_Year 2042 - SIDRA

16. NCC & Claus Road - Alt 1A PM_Year 2042
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	**Vehicles**	**Persons**
Travel Speed (Average)	23.1 mph	23.1 mph
Travel Distance (Total)	4450.4 veh-mi/h	5340.5 pers-mi/h
Travel Time (Total)	192.5 veh-h/h	231.0 pers-h/h
Demand Flows (Total)	6779 veh/h	8135 pers/h
Percent Heavy Vehicles (Demand)	13.0 %	
Degree of Saturation	1.096	
Practical Spare Capacity	-22.5 %	
Effective Intersection Capacity	6182 veh/h	
Control Delay (Total)	49.45 veh-h/h	59.34 pers-h/h
Control Delay (Average)	26.3 sec	26.3 sec
Control Delay (Worst Lane)	65.5 sec	
Control Delay (Worst Movement)	65.5 sec	65.5 sec
Geometric Delay (Average)	2.0 sec	
Stop-Line Delay (Average)	24.2 sec	
Idling Time (Average)	10.0 sec	
Intersection Level of Service (LOS)	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	38.0 veh	
95% Back of Queue - Distance (Worst Lane)	1049.9 ft	
Queue Storage Ratio (Worst Lane)	0.87	
Total Effective Stops	10034 veh/h	12041 pers/h
Effective Stop Rate	1.48 per veh	1.48 per pers
Proportion Queued	0.75	0.75
Performance Index	326.9	326.9
Cost (Total)	2830.14 $/h	2830.14 $/h
Fuel Consumption (Total)	250.1 gal/h	
Carbon Dioxide (Total)	2285.4 kg/h	
Hydrocarbons (Total)	0.640 kg/h	
Carbon Monoxide (Total)	6.995 kg/h	
NOx (Total)	8.602 kg/h	

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	**Vehicles**	**Persons**
Demand Flows (Total)	3,253,894 veh/y	3,904,673 pers/y
Delay	23,736 veh-h/y	28,483 pers-h/y
Effective Stops	4,816,432 veh/y	5,779,719 pers/y
Travel Distance	2,136,214 veh-mi/y	2,563,457 pers-mi/y
Travel Time	92,388 veh-h/y	110,866 pers-h/y
Cost	1,358,467 $/y	1,358,467 $/y
Fuel Consumption	120,046 gal/y	
Carbon Dioxide	1,096,987 kg/y	
Hydrocarbons	307 kg/y	
Carbon Monoxide	3,358 kg/y	
NOx	4,129 kg/y	

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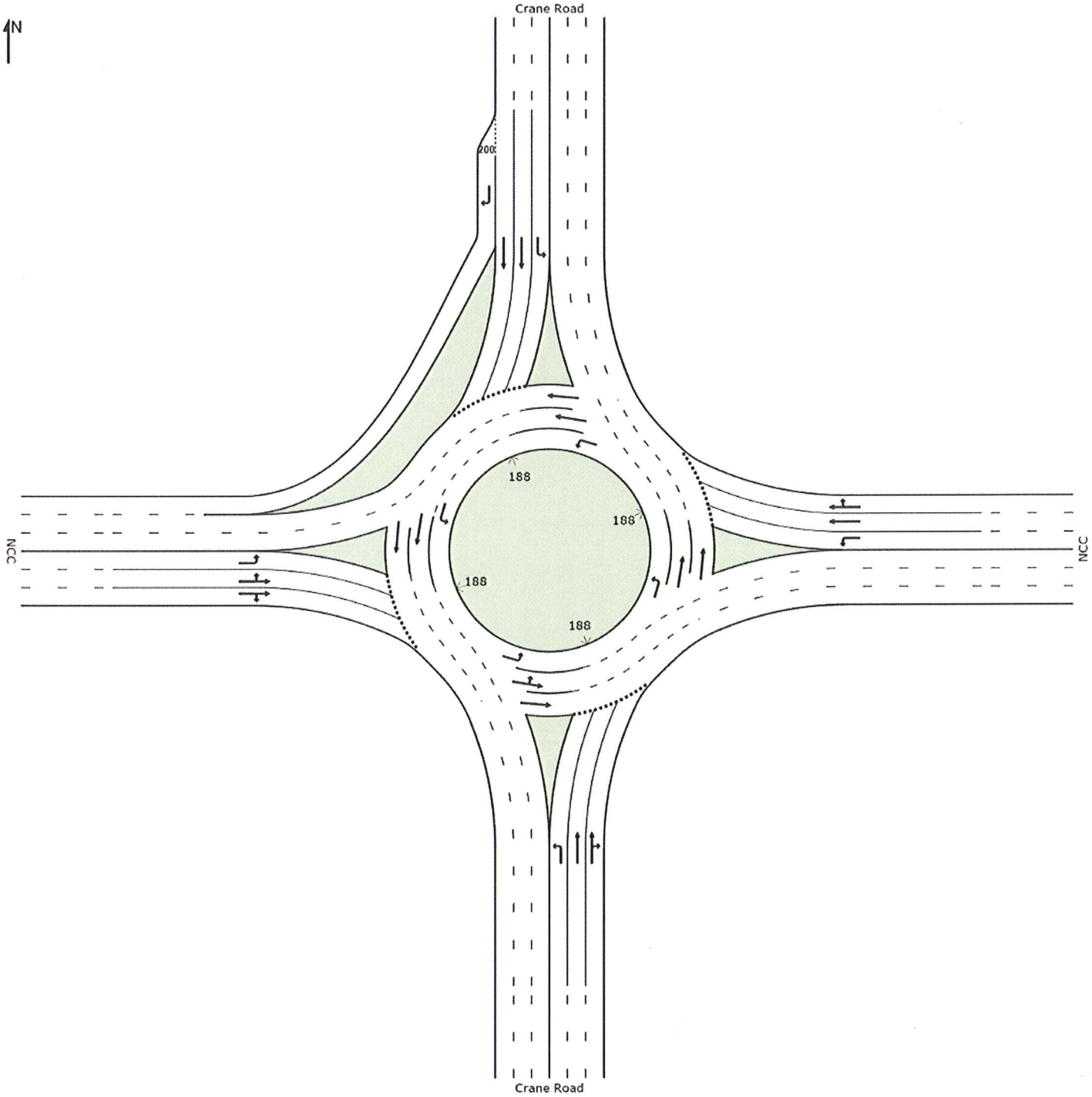
SITE LAYOUT

Site: 26. NCC & Crane Road - Alt 1A PM_Year 2042 - SIDRA

26. NCC & Crane Road - Alt 1A PM_Year 2042
Roundabout



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INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

Site: 26. NCC & Crane Road - Alt 1A PM_Year 2042 - SIDRA

26. NCC & Crane Road - Alt 1A PM_Year 2042
Roundabout

Volume Display Method: Total and %

Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

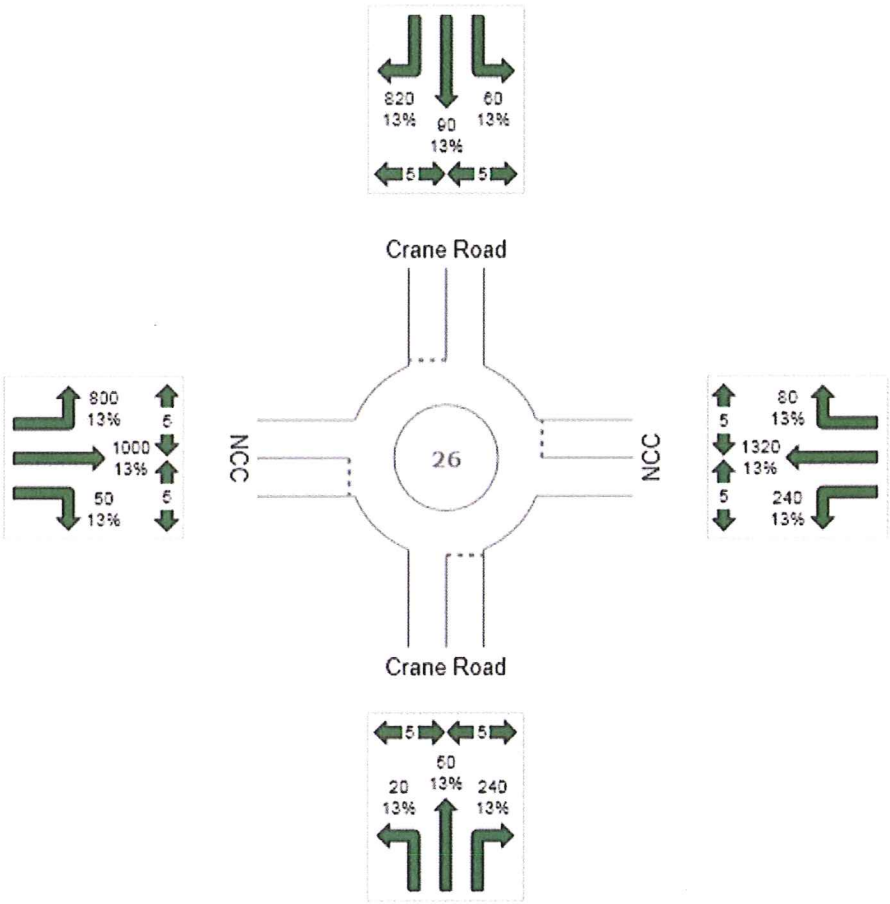
Total Intersection Volumes (veh)

All Movement Classes: 4770

Light Vehicles (LV): 4150

Heavy Vehicles (HV): 620

Pedestrians: 40



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MOVEMENT SUMMARY

Site: 26. NCC & Crane Road - Alt 1A PM_Year 2042 - SIDRA

26. NCC & Crane Road - Alt 1A PM_Year 2042
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Crane Road											
3	L2	21	13.0	0.040	10.4	LOS B	0.2	4.5	0.73	0.83	29.3
8	T1	53	13.0	0.100	3.8	LOS A	0.4	11.3	0.74	0.50	28.0
18	R2	253	13.0	0.415	5.9	LOS A	2.2	59.5	0.82	0.90	28.5
Approach		326	13.0	0.415	5.9	LOS A	2.2	59.5	0.80	0.83	28.5
East: NCC											
1	L2	253	13.0	0.432	11.5	LOS B	2.1	57.3	0.71	0.90	29.1
6	T1	1389	13.0	0.974	21.9	LOS C	18.1	498.6	1.00	1.73	23.4
16	R2	84	13.0	0.974	21.7	LOS C	18.1	498.6	1.00	1.75	24.2
Approach		1726	13.0	0.974	20.3	LOS C	18.1	498.6	0.95	1.61	24.2
North: Crane Road											
7	L2	63	13.0	0.125	11.2	LOS B	0.5	15.0	0.77	0.89	29.2
4	T1	95	13.0	0.139	5.9	LOS A	0.5	14.3	0.80	0.78	27.9
14	R2	863	13.0	0.582	1.1	LOS A	0.0	0.0	0.00	0.14	30.4
Approach		1021	13.0	0.582	2.1	LOS A	0.5	15.0	0.12	0.24	30.0
West: NCC											
5	L2	842	13.0	0.646	10.0	LOS A	4.5	124.2	0.65	0.80	29.8
2	T1	1053	13.0	0.646	2.8	LOS A	4.6	127.7	0.64	0.49	28.0
12	R2	53	13.0	0.646	3.8	LOS A	4.6	127.7	0.63	0.41	29.0
Approach		1947	13.0	0.646	5.9	LOS A	4.6	127.7	0.64	0.62	28.8
All Vehicles		5021	13.0	0.974	10.1	LOS B	18.1	498.6	0.65	0.90	27.2

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

INTERSECTION SUMMARY

Site: 26. NCC & Crane Road - Alt 1A PM_Year 2042 - SIDRA

26. NCC & Crane Road - Alt 1A PM_Year 2042
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	**Vehicles**	**Persons**
Travel Speed (Average)	27.2 mph	27.2 mph
Travel Distance (Total)	3285.3 veh-mi/h	3942.4 pers-mi/h
Travel Time (Total)	120.7 veh-h/h	144.9 pers-h/h
Demand Flows (Total)	5021 veh/h	6025 pers/h
Percent Heavy Vehicles (Demand)	13.0 %	
Degree of Saturation	0.974	
Practical Spare Capacity	-12.7 %	
Effective Intersection Capacity	5155 veh/h	
Control Delay (Total)	14.09 veh-h/h	16.91 pers-h/h
Control Delay (Average)	10.1 sec	10.1 sec
Control Delay (Worst Lane)	23.4 sec	
Control Delay (Worst Movement)	21.9 sec	21.9 sec
Geometric Delay (Average)	1.8 sec	
Stop-Line Delay (Average)	8.3 sec	
Idling Time (Average)	1.4 sec	
Intersection Level of Service (LOS)	LOS B	
95% Back of Queue - Vehicles (Worst Lane)	18.1 veh	
95% Back of Queue - Distance (Worst Lane)	498.6 ft	
Queue Storage Ratio (Worst Lane)	0.41	
Total Effective Stops	4506 veh/h	5407 pers/h
Effective Stop Rate	0.90 per veh	0.90 per pers
Proportion Queued	0.65	0.65
Performance Index	192.6	192.6
Cost (Total)	1686.47 $/h	1686.47 $/h
Fuel Consumption (Total)	166.1 gal/h	
Carbon Dioxide (Total)	1519.8 kg/h	
Hydrocarbons (Total)	0.391 kg/h	
Carbon Monoxide (Total)	4.682 kg/h	
NOx (Total)	5.679 kg/h	

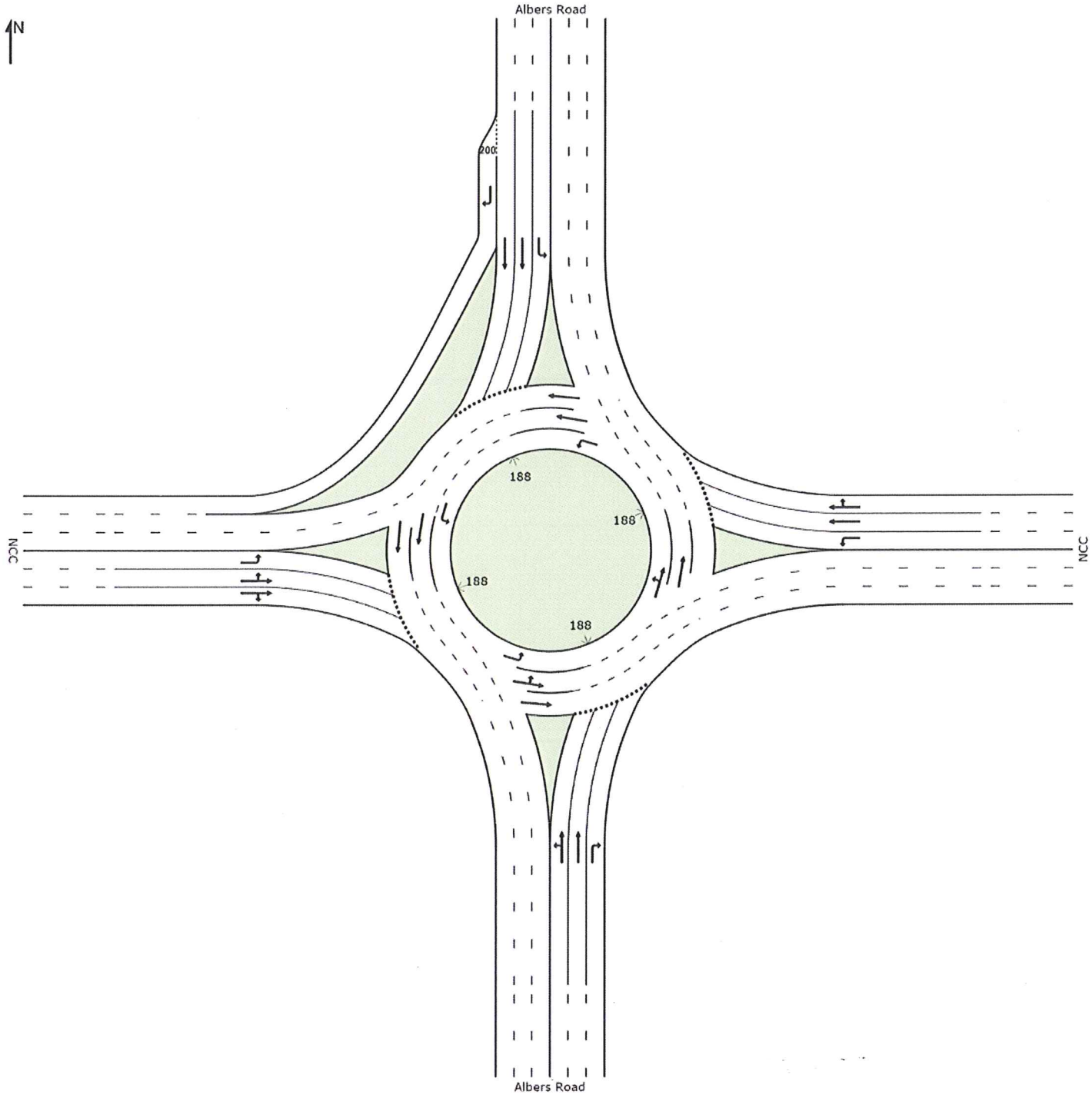
Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	**Vehicles**	**Persons**
Demand Flows (Total)	2,410,105 veh/y	2,892,126 pers/y
Delay	6,764 veh-h/y	8,117 pers-h/y
Effective Stops	2,162,819 veh/y	2,595,382 pers/y
Travel Distance	1,576,960 veh-mi/y	1,892,352 pers-mi/y
Travel Time	57,955 veh-h/y	69,546 pers-h/y
Cost	809,507 $/y	809,507 $/y
Fuel Consumption	79,726 gal/y	
Carbon Dioxide	729,489 kg/y	
Hydrocarbons	188 kg/y	
Carbon Monoxide	2,247 kg/y	
NOx	2,726 kg/y	

SITE LAYOUT

Site: 27. NCC & Albers Road - Alt 1A PM_Year 2042 - SIDRA

27. NCC & Albers Road - Alt 1A PM_Year 2042
Roundabout



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INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

Site: 27. NCC & Albers Road - Alt 1A PM_Year 2042 - SIDRA

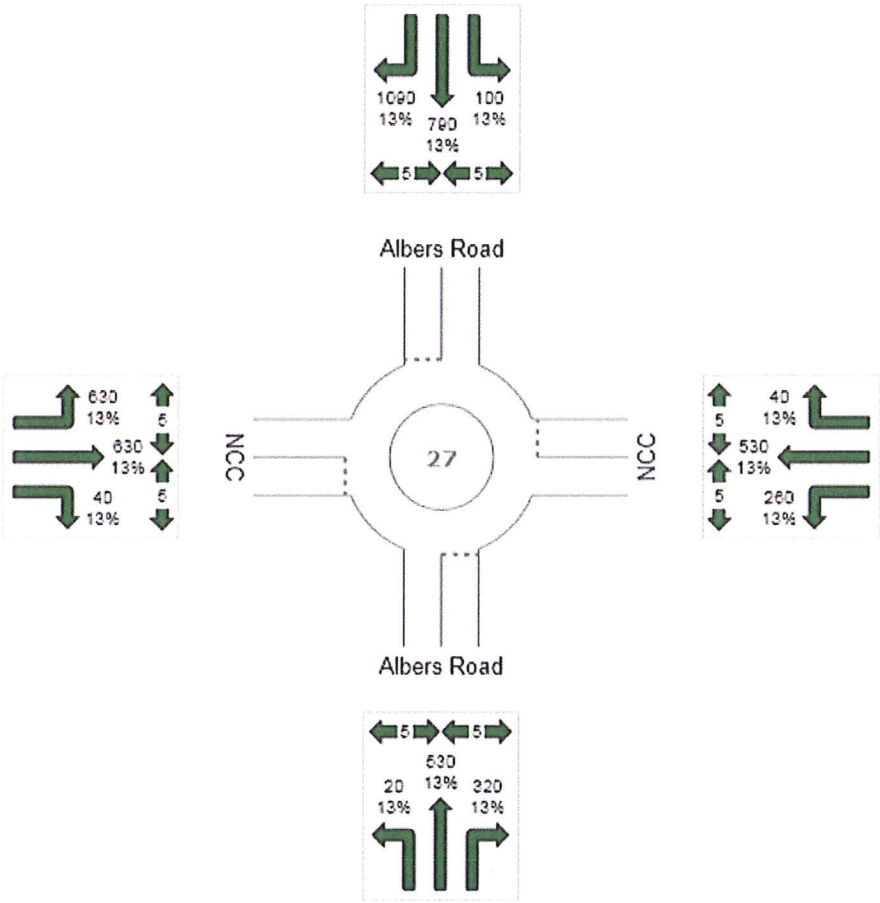
27. NCC & Albers Road - Alt 1A PM_Year 2042
Roundabout

Volume Display Method: Total and %

Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

- **All Movement Classes: 4980**
- **Light Vehicles (LV): 4333**
- **Heavy Vehicles (HV): 647**
- **Pedestrians: 40**



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MOVEMENT SUMMARY

Site: 27. NCC & Albers Road - Alt 1A PM_Year 2042 - SIDRA

27. NCC & Albers Road - Alt 1A PM_Year 2042
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Albers Road											
3	L2	21	13.0	0.529	11.6	LOS B	2.6	72.4	0.80	0.72	30.9
8	T1	558	13.0	0.529	4.8	LOS A	2.6	72.4	0.80	0.71	27.8
18	R2	337	13.0	0.416	4.0	LOS A	2.3	62.6	0.79	0.64	28.7
Approach		916	13.0	0.529	4.7	LOS A	2.6	72.4	0.80	0.69	28.2
East: NCC											
1	L2	274	13.0	0.410	11.2	LOS B	1.9	52.9	0.71	0.91	29.2
6	T1	558	13.0	0.368	3.4	LOS A	1.9	51.7	0.70	0.49	28.1
16	R2	42	13.0	0.368	4.0	LOS A	1.9	51.7	0.71	0.43	28.8
Approach		874	13.0	0.410	5.9	LOS A	1.9	52.9	0.70	0.62	28.5
North: Albers Road											
7	L2	105	13.0	0.139	8.6	LOS A	0.4	12.0	0.51	0.68	29.7
4	T1	832	13.0	0.452	2.1	LOS A	2.0	54.6	0.59	0.30	28.4
14	R2	1147	13.0	0.774	1.2	LOS A	0.0	0.0	0.00	0.13	30.2
Approach		2084	13.0	0.774	1.9	LOS A	2.0	54.6	0.26	0.23	29.4
West: NCC											
5	L2	663	13.0	0.557	11.1	LOS B	3.0	82.2	0.74	0.91	29.5
2	T1	663	13.0	0.557	3.3	LOS A	3.4	93.9	0.74	0.56	27.8
12	R2	42	13.0	0.557	4.2	LOS A	3.4	93.9	0.74	0.48	28.7
Approach		1368	13.0	0.557	7.1	LOS A	3.4	93.9	0.74	0.73	28.6
All Vehicles		5242	13.0	0.774	4.4	LOS A	3.4	93.9	0.55	0.50	28.8

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

INTERSECTION SUMMARY

Site: 27. NCC & Albers Road - Alt 1A PM_Year 2042 - SIDRA

27. NCC & Albers Road - Alt 1A PM_Year 2042
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	**Vehicles**	**Persons**
Travel Speed (Average)	28.8 mph	28.8 mph
Travel Distance (Total)	3416.9 veh-mi/h	4100.3 pers-mi/h
Travel Time (Total)	118.6 veh-h/h	142.3 pers-h/h
Demand Flows (Total)	5242 veh/h	6291 pers/h
Percent Heavy Vehicles (Demand)	13.0 %	
Degree of Saturation	0.774	
Practical Spare Capacity	9.8 %	
Effective Intersection Capacity	6771 veh/h	
Control Delay (Total)	6.45 veh-h/h	7.73 pers-h/h
Control Delay (Average)	4.4 sec	4.4 sec
Control Delay (Worst Lane)	11.2 sec	
Control Delay (Worst Movement)	11.6 sec	11.6 sec
Geometric Delay (Average)	1.7 sec	
Stop-Line Delay (Average)	2.8 sec	
Idling Time (Average)	0.1 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	3.4 veh	
95% Back of Queue - Distance (Worst Lane)	93.9 ft	
Queue Storage Ratio (Worst Lane)	0.08	
Total Effective Stops	2641 veh/h	3169 pers/h
Effective Stop Rate	0.50 per veh	0.50 per pers
Proportion Queued	0.55	0.55
Performance Index	155.2	155.2
Cost (Total)	1596.68 $/h	1596.68 $/h
Fuel Consumption (Total)	163.7 gal/h	
Carbon Dioxide (Total)	1499.4 kg/h	
Hydrocarbons (Total)	0.374 kg/h	
Carbon Monoxide (Total)	4.663 kg/h	
NOx (Total)	5.509 kg/h	

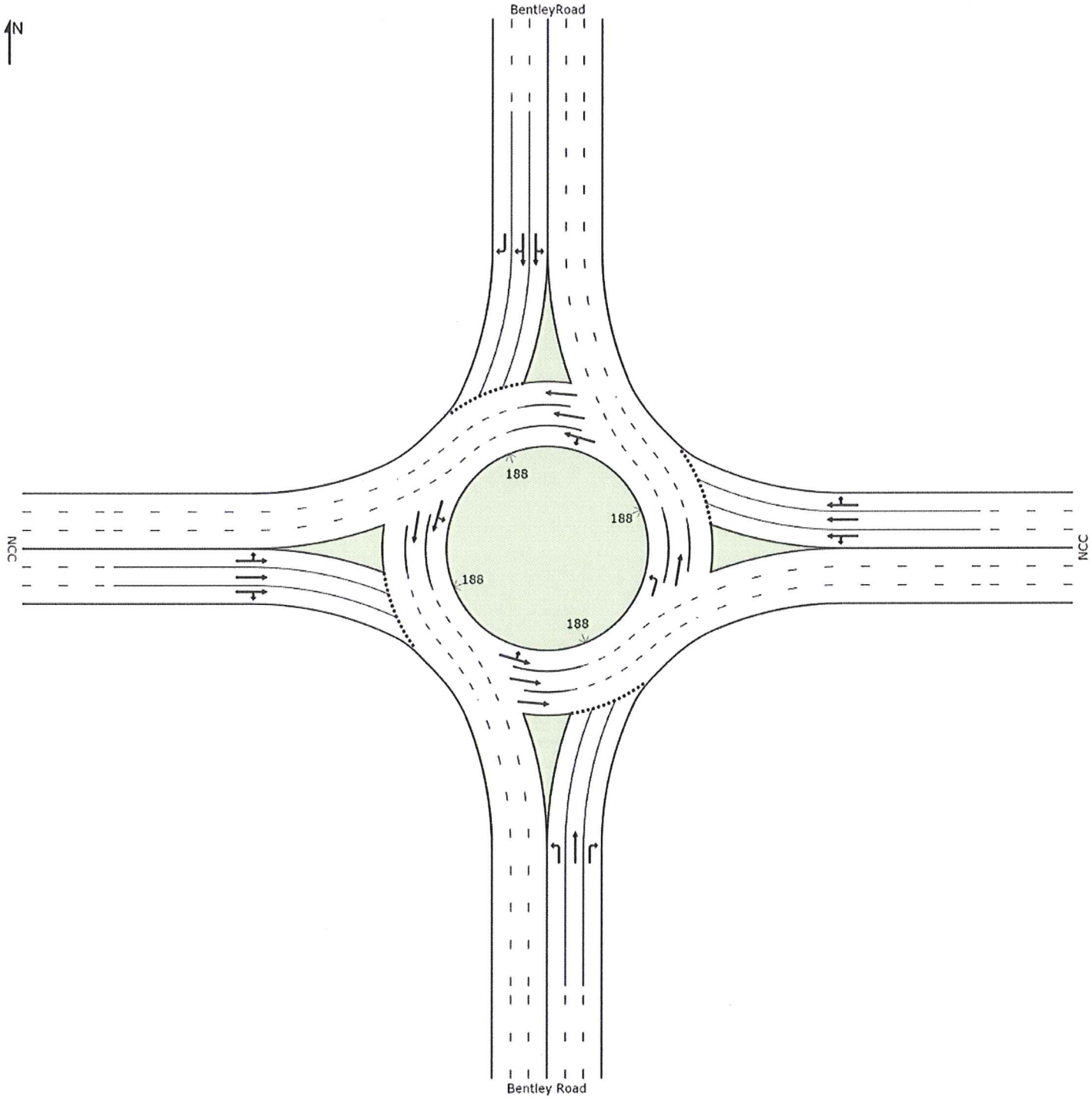
Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	**Vehicles**	**Persons**
Demand Flows (Total)	2,516,211 veh/y	3,019,452 pers/y
Delay	3,094 veh-h/y	3,713 pers-h/y
Effective Stops	1,267,617 veh/y	1,521,141 pers/y
Travel Distance	1,640,131 veh-mi/y	1,968,157 pers-mi/y
Travel Time	56,915 veh-h/y	68,298 pers-h/y
Cost	766,407 $/y	766,407 $/y
Fuel Consumption	78,598 gal/y	
Carbon Dioxide	719,708 kg/y	
Hydrocarbons	179 kg/y	
Carbon Monoxide	2,238 kg/y	
NOx	2,644 kg/y	

SITE LAYOUT

Site: 18. NCC & Bentley Road - Alt 1A PM_Year 2042 - SIDRA

18. NCC & Bentley Road - Alt 1A PM_Year 2042
Roundabout



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INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

Site: 18. NCC & Bentley Road - Alt 1A PM_Year 2042 - SIDRA

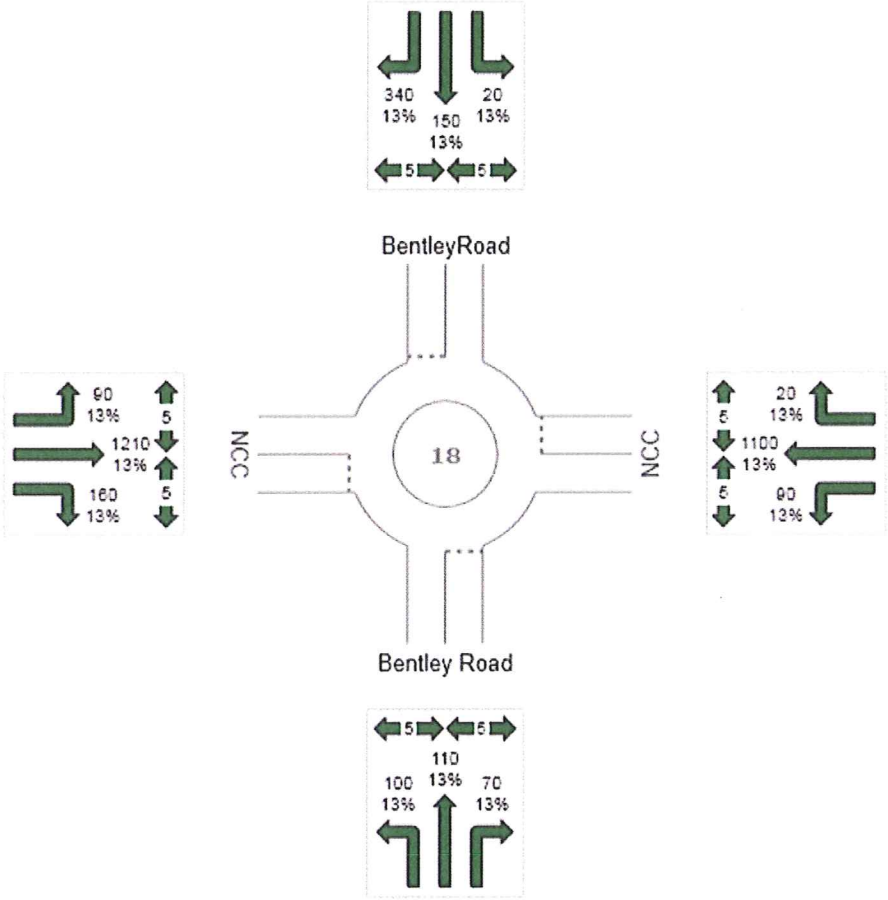
18. NCC & Bentley Road - Alt 1A PM_Year 2042
Roundabout

Volume Display Method: Total and %

Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

- **All Movement Classes: 3460**
- **Light Vehicles (LV): 3010**
- **Heavy Vehicles (HV): 450**
- **Pedestrians: 40**



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MOVEMENT SUMMARY

Site: 18. NCC & Bentley Road - Alt 1A PM_Year 2042 - SIDRA

18. NCC & Bentley Road - Alt 1A PM_Year 2042
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Bentley Road											
3	L2	105	13.0	0.163	9.7	LOS A	0.6	16.0	0.63	0.77	29.5
8	T1	116	13.0	0.121	1.9	LOS A	0.5	13.7	0.63	0.26	28.3
18	R2	74	13.0	0.110	3.9	LOS A	0.4	10.7	0.62	0.59	29.1
Approach		295	13.0	0.163	5.2	LOS A	0.6	16.0	0.63	0.52	28.9
East: NCC											
1	L2	95	13.0	0.371	7.7	LOS A	1.6	41.6	0.42	0.25	31.9
6	T1	1158	13.0	0.371	1.1	LOS A	1.7	45.6	0.42	0.18	28.7
16	R2	21	13.0	0.371	2.0	LOS A	1.7	45.6	0.41	0.12	29.6
Approach		1274	13.0	0.371	1.6	LOS A	1.7	46.9	0.42	0.19	29.0
North: BentleyRoad											
7	L2	21	13.0	0.227	9.7	LOS A	0.7	20.0	0.63	0.46	31.3
4	T1	158	13.0	0.227	3.0	LOS A	0.7	20.0	0.63	0.48	28.1
14	R2	358	13.0	0.227	3.5	LOS A	0.8	23.2	0.60	0.52	29.1
Approach		537	13.0	0.227	3.6	LOS A	0.8	23.2	0.61	0.51	28.9
West: NCC											
5	L2	95	13.0	0.437	8.0	LOS A	2.2	61.2	0.45	0.27	31.8
2	T1	1274	13.0	0.437	1.1	LOS A	2.3	64.2	0.45	0.20	28.7
12	R2	168	13.0	0.437	2.1	LOS A	2.3	64.2	0.43	0.18	29.5
Approach		1537	13.0	0.437	1.7	LOS A	2.3	64.2	0.44	0.20	28.9
All Vehicles		3642	13.0	0.437	2.2	LOS A	2.3	64.2	0.48	0.27	28.9

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

INTERSECTION SUMMARY

Site: 18. NCC & Bentley Road - Alt 1A PM_Year 2042 - SIDRA

18. NCC & Bentley Road - Alt 1A PM_Year 2042
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	**Vehicles**	**Persons**
Travel Speed (Average)	28.9 mph	28.9 mph
Travel Distance (Total)	2374.7 veh-mi/h	2849.7 pers-mi/h
Travel Time (Total)	82.1 veh-h/h	98.5 pers-h/h
Demand Flows (Total)	3642 veh/h	4371 pers/h
Percent Heavy Vehicles (Demand)	13.0 %	
Degree of Saturation	0.437	
Practical Spare Capacity	94.7 %	
Effective Intersection Capacity	8340 veh/h	
Control Delay (Total)	2.23 veh-h/h	2.67 pers-h/h
Control Delay (Average)	2.2 sec	2.2 sec
Control Delay (Worst Lane)	9.7 sec	
Control Delay (Worst Movement)	9.7 sec	9.7 sec
Geometric Delay (Average)	0.8 sec	
Stop-Line Delay (Average)	1.4 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	2.3 veh	
95% Back of Queue - Distance (Worst Lane)	64.2 ft	
Queue Storage Ratio (Worst Lane)	0.05	
Total Effective Stops	976 veh/h	1171 pers/h
Effective Stop Rate	0.27 per veh	0.27 per pers
Proportion Queued	0.48	0.48
Performance Index	99.2	99.2
Cost (Total)	1016.96 $/h	1016.96 $/h
Fuel Consumption (Total)	106.5 gal/h	
Carbon Dioxide (Total)	976.5 kg/h	
Hydrocarbons (Total)	0.239 kg/h	
Carbon Monoxide (Total)	3.082 kg/h	
NOx (Total)	3.508 kg/h	

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	**Vehicles**	**Persons**
Demand Flows (Total)	1,748,210 veh/y	2,097,852 pers/y
Delay	1,069 veh-h/y	1,283 pers-h/y
Effective Stops	468,275 veh/y	561,930 pers/y
Travel Distance	1,139,872 veh-mi/y	1,367,847 pers-mi/y
Travel Time	39,406 veh-h/y	47,287 pers-h/y
Cost	488,143 $/y	488,143 $/y
Fuel Consumption	51,115 gal/y	
Carbon Dioxide	468,697 kg/y	
Hydrocarbons	115 kg/y	
Carbon Monoxide	1,479 kg/y	
NOx	1,684 kg/y	

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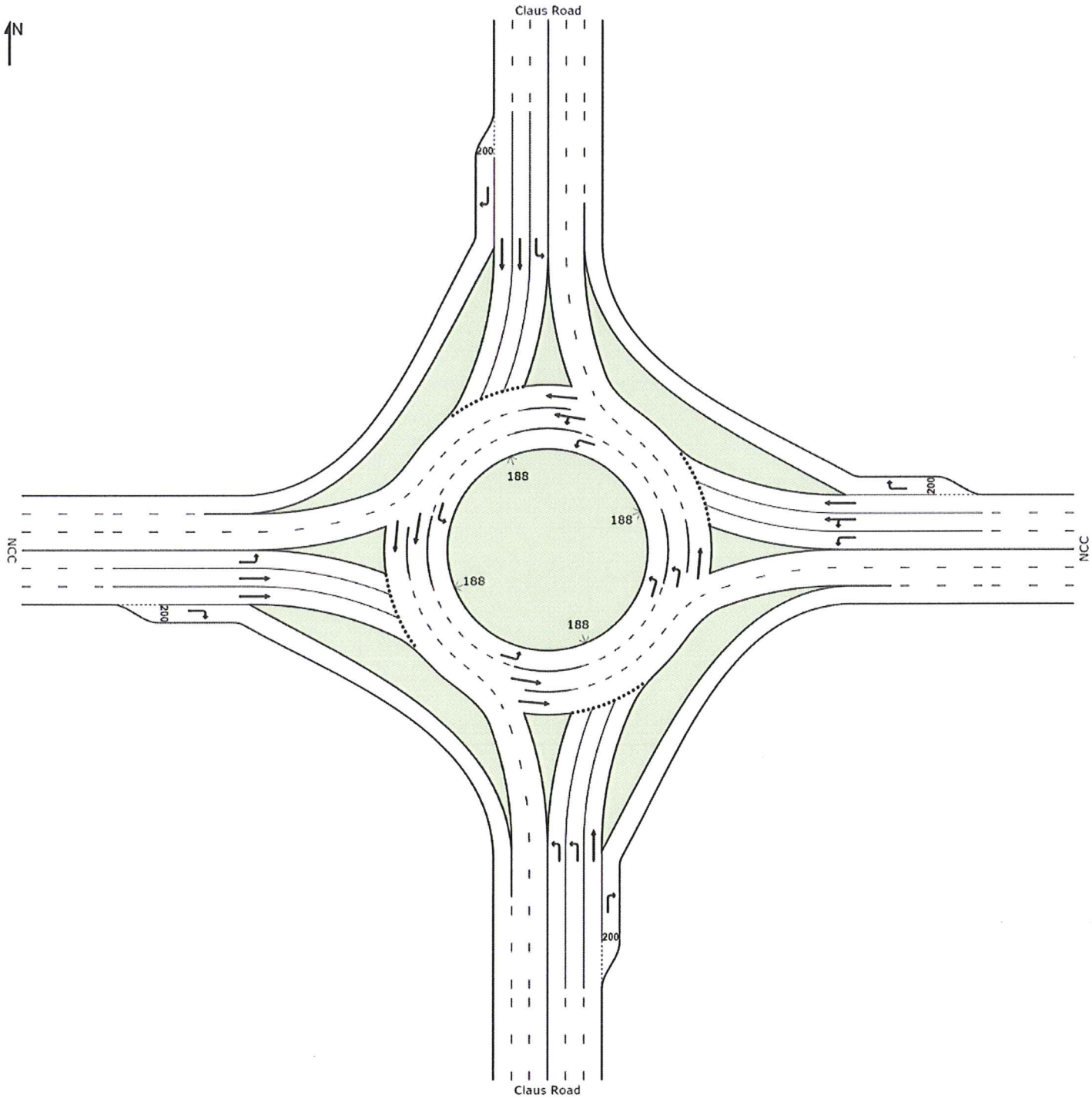
SITE LAYOUT

Site: 16. NCC & Claus Road - Alt 1A PM_Year 2037 - SIDRA

16. NCC & Claus Road - Alt 1A PM_Year 2037
Roundabout



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INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

Site: 16. NCC & Claus Road - Alt 1A PM_Year 2037 - SIDRA

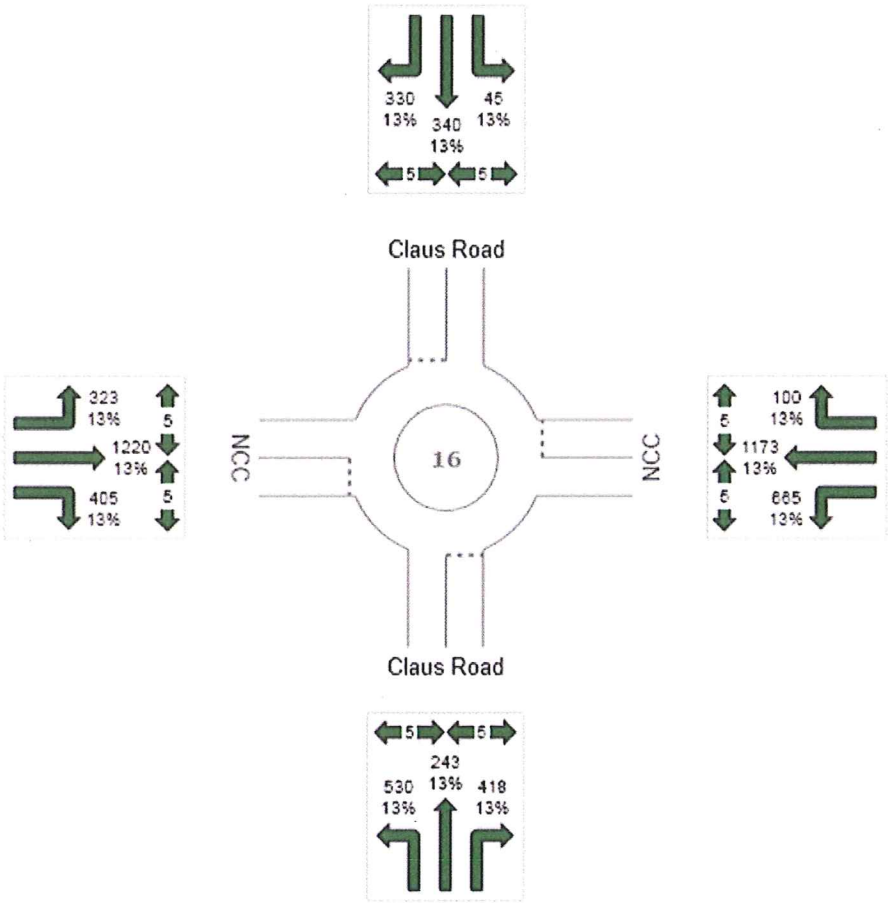
16. NCC & Claus Road - Alt 1A PM_Year 2037
Roundabout

Volume Display Method: Total and %

Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

- **All Movement Classes: 5792**
- **Light Vehicles (LV): 5039**
- **Heavy Vehicles (HV): 753**
- **Pedestrians: 40**



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MOVEMENT SUMMARY

Site: 16. NCC & Claus Road - Alt 1A PM_Year 2037 - SIDRA

16. NCC & Claus Road - Alt 1A PM_Year 2037
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Claus Road											
3	L2	558	13.0	0.526	13.0	LOS B	3.4	94.8	0.89	1.02	28.6
8	T1	256	13.0	0.604	7.9	LOS A	3.3	90.4	0.88	0.97	27.3
18	R2	440	13.0	0.297	1.0	LOS A	0.0	0.0	0.00	0.14	30.5
Approach		1254	13.0	0.604	7.7	LOS A	3.4	94.8	0.57	0.70	28.9
East: NCC											
1	L2	700	13.0	0.880	17.6	LOS C	7.9	217.5	0.92	1.26	27.4
6	T1	1235	13.0	0.880	9.1	LOS A	9.2	254.5	0.92	1.23	26.7
16	R2	105	13.0	0.071	0.9	LOS A	0.0	0.0	0.00	0.14	30.5
Approach		2040	13.0	0.880	11.6	LOS B	9.2	254.5	0.87	1.18	27.1
North: Claus Road											
7	L2	47	13.0	0.250	13.1	LOS B	0.5	14.0	0.85	0.93	28.5
4	T1	358	13.0	1.055	83.0	LOS F	7.9	218.5	1.00	2.13	14.6
14	R2	347	13.0	0.234	1.0	LOS A	0.0	0.0	0.00	0.14	30.5
Approach		753	13.0	1.055	40.7	LOS E	7.9	218.5	0.53	1.14	19.9
West: NCC											
5	L2	340	13.0	0.488	10.7	LOS B	2.5	69.3	0.73	0.91	29.2
2	T1	1284	13.0	0.781	6.5	LOS A	6.8	186.9	0.86	0.98	27.6
12	R2	426	13.0	0.288	1.0	LOS A	0.0	0.0	0.00	0.14	30.5
Approach		2051	13.0	0.781	6.0	LOS A	6.8	186.9	0.66	0.79	28.4
All Vehicles		6097	13.0	1.055	12.5	LOS B	9.2	254.5	0.70	0.95	26.7

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

INTERSECTION SUMMARY

Site: 16. NCC & Claus Road - Alt 1A PM_Year 2037 - SIDRA

16. NCC & Claus Road - Alt 1A PM_Year 2037
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	**Vehicles**	**Persons**
Travel Speed (Average)	26.7 mph	26.7 mph
Travel Distance (Total)	4001.9 veh-mi/h	4802.3 pers-mi/h
Travel Time (Total)	150.0 veh-h/h	180.0 pers-h/h
Demand Flows (Total)	6097 veh/h	7316 pers/h
Percent Heavy Vehicles (Demand)	13.0 %	
Degree of Saturation	1.055	
Practical Spare Capacity	-19.4 %	
Effective Intersection Capacity	5780 veh/h	
Control Delay (Total)	21.20 veh-h/h	25.44 pers-h/h
Control Delay (Average)	12.5 sec	12.5 sec
Control Delay (Worst Lane)	87.5 sec	
Control Delay (Worst Movement)	83.0 sec	83.0 sec
Geometric Delay (Average)	2.0 sec	
Stop-Line Delay (Average)	10.5 sec	
Idling Time (Average)	3.8 sec	
Intersection Level of Service (LOS)	LOS B	
95% Back of Queue - Vehicles (Worst Lane)	9.2 veh	
95% Back of Queue - Distance (Worst Lane)	254.5 ft	
Queue Storage Ratio (Worst Lane)	0.21	
Total Effective Stops	5778 veh/h	6934 pers/h
Effective Stop Rate	0.95 per veh	0.95 per pers
Proportion Queued	0.70	0.70
Performance Index	218.6	218.6
Cost (Total)	2152.60 $/h	2152.60 $/h
Fuel Consumption (Total)	207.7 gal/h	
Carbon Dioxide (Total)	1900.0 kg/h	
Hydrocarbons (Total)	0.497 kg/h	
Carbon Monoxide (Total)	5.853 kg/h	
NOx (Total)	7.087 kg/h	

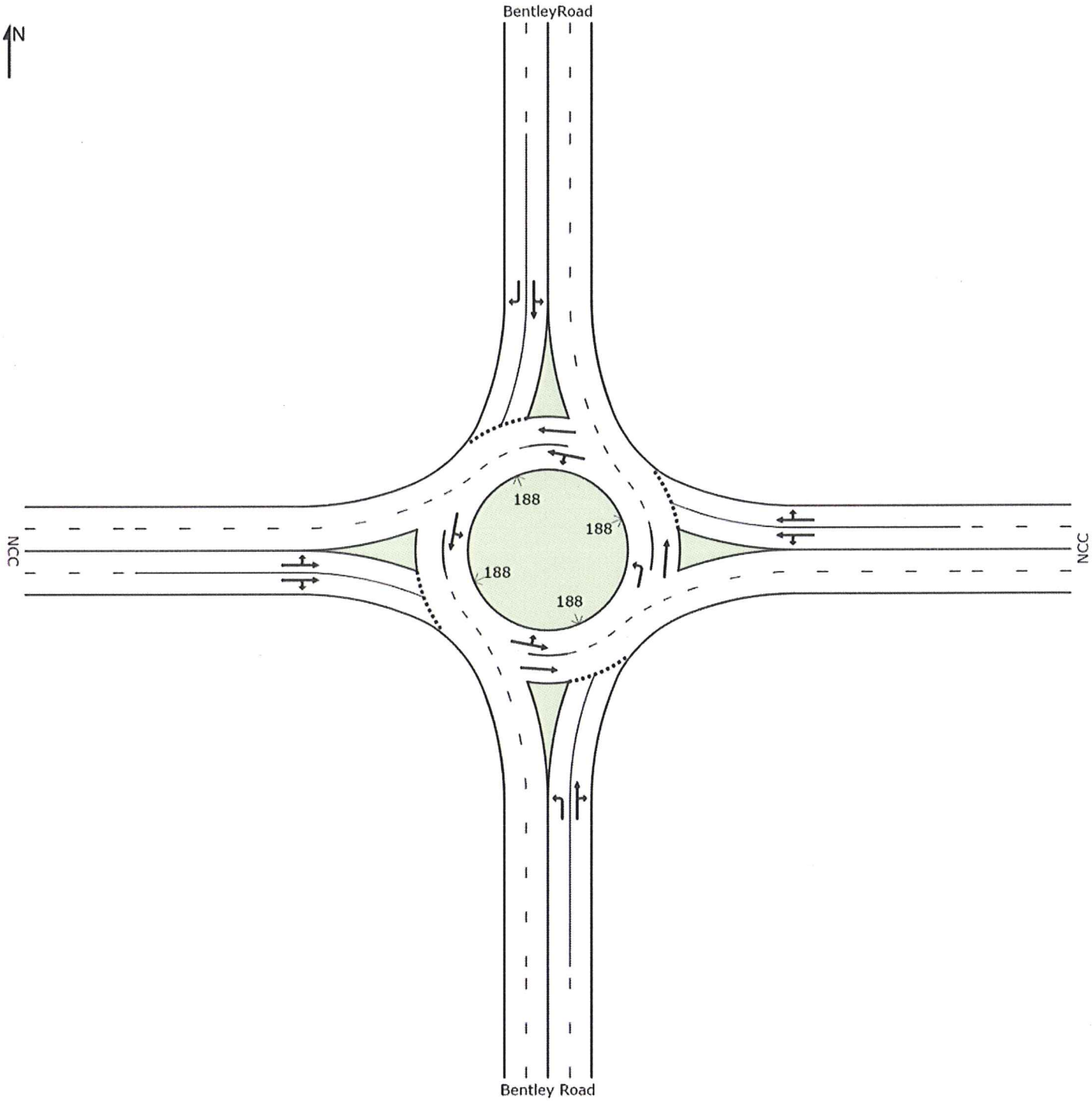
Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	**Vehicles**	**Persons**
Demand Flows (Total)	2,926,484 veh/y	3,511,781 pers/y
Delay	10,178 veh-h/y	12,213 pers-h/y
Effective Stops	2,773,489 veh/y	3,328,187 pers/y
Travel Distance	1,920,919 veh-mi/y	2,305,102 pers-mi/y
Travel Time	72,000 veh-h/y	86,400 pers-h/y
Cost	1,033,248 $/y	1,033,248 $/y
Fuel Consumption	99,708 gal/y	
Carbon Dioxide	911,993 kg/y	
Hydrocarbons	238 kg/y	
Carbon Monoxide	2,810 kg/y	
NOx	3,402 kg/y	

SITE LAYOUT

Site: 18. NCC & Bentley Road - Alt 1A PM_Year 2042 - SIDRA - 2 lane

18. NCC & Bentley Road - Alt 1A PM_Year 2042
Roundabout



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INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

Site: 18. NCC & Bentley Road - Alt 1A PM_Year 2042 - SIDRA - 2 lane

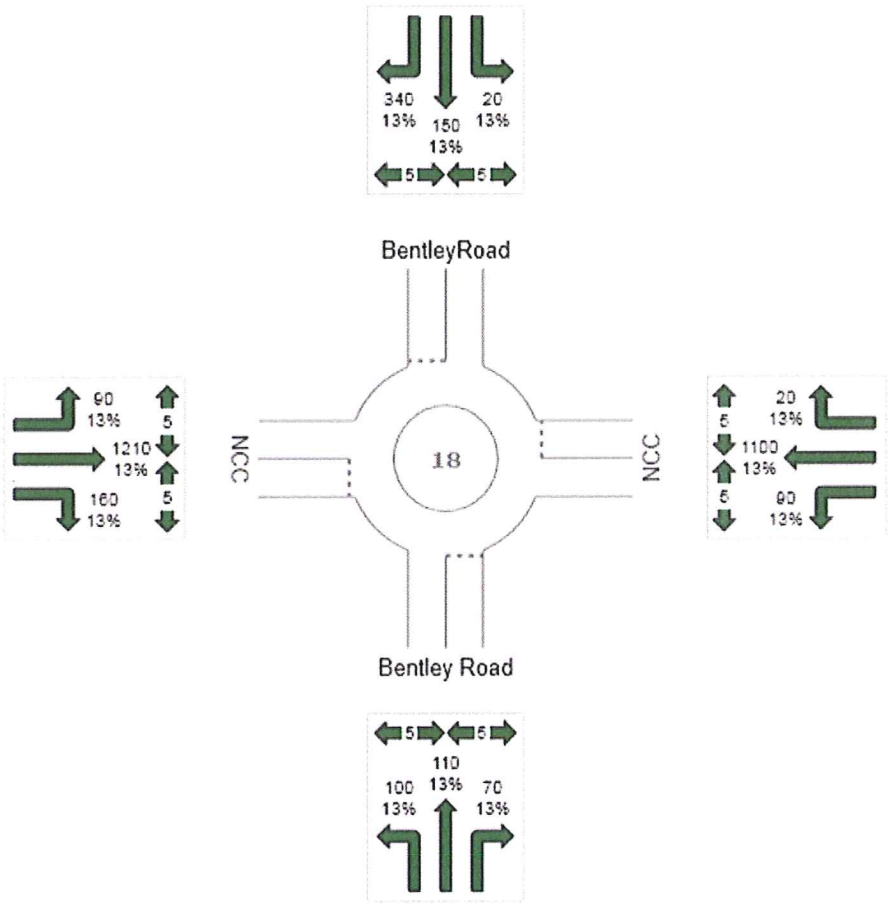
18. NCC & Bentley Road - Alt 1A PM_Year 2042
Roundabout

Volume Display Method: Total and %

Volumes are shown for Movement Class(es): All Classes and Heavy Vehicles

Total Intersection Volumes (veh)

- **All Movement Classes: 3460**
- **Light Vehicles (LV): 3010**
- **Heavy Vehicles (HV): 450**
- **Pedestrians: 40**



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MOVEMENT SUMMARY

Site: 18. NCC & Bentley Road - Alt 1A PM_Year 2042 - SIDRA - 2 lane

18. NCC & Bentley Road - Alt 1A PM_Year 2042
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Bentley Road											
3	L2	105	13.0	0.231	11.7	LOS B	1.1	29.9	0.79	0.90	29.0
8	T1	116	13.0	0.278	3.4	LOS A	1.5	42.3	0.82	0.54	27.9
18	R2	74	13.0	0.278	4.4	LOS A	1.5	42.3	0.82	0.54	28.6
Approach		295	13.0	0.278	6.6	LOS A	1.5	42.3	0.81	0.67	28.5
East: NCC											
1	L2	95	13.0	0.594	8.3	LOS A	4.4	111.9	0.60	0.28	31.5
6	T1	1158	13.0	0.594	2.5	LOS A	4.4	111.9	0.63	0.40	28.2
16	R2	21	13.0	0.594	5.1	LOS A	4.3	136.2	0.69	0.61	28.9
Approach		1274	13.0	0.594	3.0	LOS A	4.4	136.2	0.63	0.40	28.4
North: BentleyRoad											
7	L2	21	13.0	0.377	13.6	LOS B	1.8	48.7	0.79	0.85	30.4
4	T1	158	13.0	0.377	6.8	LOS A	1.8	48.7	0.79	0.85	27.4
14	R2	358	13.0	0.516	7.2	LOS A	3.2	87.2	0.80	0.91	28.1
Approach		537	13.0	0.516	7.3	LOS A	3.2	87.2	0.80	0.89	28.0
West: NCC											
5	L2	95	13.0	0.683	10.5	LOS B	6.9	191.3	0.74	0.59	31.0
2	T1	1274	13.0	0.683	3.2	LOS A	7.0	193.4	0.73	0.52	27.9
12	R2	168	13.0	0.683	3.8	LOS A	7.0	193.4	0.72	0.45	28.8
Approach		1537	13.0	0.683	3.7	LOS A	7.0	193.4	0.73	0.51	28.2
All Vehicles		3642	13.0	0.683	4.2	LOS A	7.0	193.4	0.71	0.54	28.3

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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INTERSECTION SUMMARY

Site: 18. NCC & Bentley Road - Alt 1A PM_Year 2042 - SIDRA - 2 lane

18. NCC & Bentley Road - Alt 1A PM_Year 2042
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	**Vehicles**	**Persons**
Travel Speed (Average)	28.3 mph	28.3 mph
Travel Distance (Total)	2374.5 veh-mi/h	2849.4 pers-mi/h
Travel Time (Total)	84.0 veh-h/h	100.8 pers-h/h
Demand Flows (Total)	3642 veh/h	4371 pers/h
Percent Heavy Vehicles (Demand)	13.0 %	
Degree of Saturation	0.683	
Practical Spare Capacity	24.5 %	
Effective Intersection Capacity	5333 veh/h	
Control Delay (Total)	4.28 veh-h/h	5.13 pers-h/h
Control Delay (Average)	4.2 sec	4.2 sec
Control Delay (Worst Lane)	11.7 sec	
Control Delay (Worst Movement)	13.6 sec	13.6 sec
Geometric Delay (Average)	0.8 sec	
Stop-Line Delay (Average)	3.5 sec	
Idling Time (Average)	0.2 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	7.0 veh	
95% Back of Queue - Distance (Worst Lane)	193.4 ft	
Queue Storage Ratio (Worst Lane)	0.16	
Total Effective Stops	1971 veh/h	2365 pers/h
Effective Stop Rate	0.54 per veh	0.54 per pers
Proportion Queued	0.71	0.71
Performance Index	130.4	130.4
Cost (Total)	1089.77 $/h	1089.77 $/h
Fuel Consumption (Total)	113.0 gal/h	
Carbon Dioxide (Total)	1036.5 kg/h	
Hydrocarbons (Total)	0.257 kg/h	
Carbon Monoxide (Total)	3.216 kg/h	
NOx (Total)	3.839 kg/h	

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values		
Performance Measure	**Vehicles**	**Persons**
Demand Flows (Total)	1,748,210 veh/y	2,097,852 pers/y
Delay	2,053 veh-h/y	2,464 pers-h/y
Effective Stops	945,916 veh/y	1,135,100 pers/y
Travel Distance	1,139,756 veh-mi/y	1,367,707 pers-mi/y
Travel Time	40,319 veh-h/y	48,383 pers-h/y
Cost	523,091 $/y	523,091 $/y
Fuel Consumption	54,245 gal/y	
Carbon Dioxide	497,526 kg/y	
Hydrocarbons	123 kg/y	
Carbon Monoxide	1,544 kg/y	
NOx	1,843 kg/y	

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29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.3	2.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	16.9	5.2	15.8	5.9	17.8	3.6	10.4
Travel Dist (mi)	141.1	24.9	72.7	62.3	24.4	116.4	441.8
Travel Time (hr)	3.9	0.6	3.4	1.8	0.9	3.0	13.6
Avg Speed (mph)	36	41	21	35	26	39	33
Fuel Used (gal)	3.5	0.6	2.9	2.6	0.6	1.9	12.1
Fuel Eff. (mpg)	39.8	41.4	25.3	23.6	40.8	62.6	36.5
HC Emissions (g)	219	40	135	139	33	107	672
CO Emissions (g)	4909	895	4124	4363	669	2141	17100
NOx Emissions (g)	614	112	350	372	91	293	1833
Vehicles Entered	272	48	316	270	78	388	1372
Vehicles Exited	272	48	316	270	78	388	1372
Hourly Exit Rate	272	48	316	270	78	388	1372
Input Volume	270	50	320	260	80	390	1370
% of Volume	101	96	99	104	97	99	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.5	0.1	1.4	0.0	0.0	0.0	4.2	0.2	0.1	4.1	0.1	0.2
Total Del/Veh (s)	13.4	4.1	1.6	10.8	4.2	1.9	11.4	9.1	2.6	10.5	7.9	2.7
Travel Dist (mi)	9.8	247.8	11.7	13.4	216.8	13.8	2.4	1.3	2.5	4.0	2.1	4.1
Travel Time (hr)	0.3	5.1	0.3	0.3	4.4	0.3	0.2	0.1	0.1	0.2	0.1	0.2
Avg Speed (mph)	37	49	48	41	49	48	16	19	22	20	22	24
Fuel Used (gal)	0.3	6.7	0.3	0.3	5.5	0.3	0.1	0.0	0.1	0.1	0.1	0.1
Fuel Eff. (mpg)	38.5	37.1	39.5	40.9	39.7	43.1	34.8	38.2	44.0	37.4	39.6	42.7
HC Emissions (g)	12	420	21	17	399	29	1	1	3	4	1	4
CO Emissions (g)	274	9604	475	363	8469	587	24	23	52	65	18	66
NOx Emissions (g)	37	1223	58	52	1142	79	3	3	8	10	2	11
Vehicles Entered	17	422	20	20	324	21	19	10	20	20	10	20
Vehicles Exited	17	422	20	20	325	20	19	10	20	20	10	20
Hourly Exit Rate	17	422	20	20	325	20	19	10	20	20	10	20
Input Volume	20	430	20	20	330	20	20	10	20	20	10	20
% of Volume	84	98	99	99	98	99	94	98	99	99	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	4.7
Travel Dist (mi)	529.7
Travel Time (hr)	11.4
Avg Speed (mph)	47
Fuel Used (gal)	13.8
Fuel Eff. (mpg)	38.5
HC Emissions (g)	912
CO Emissions (g)	20019
NOx Emissions (g)	2629
Vehicles Entered	923
Vehicles Exited	923
Hourly Exit Rate	923
Input Volume	942
% of Volume	98
Denied Entry Before	0
Denied Entry After	0

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	21.1
Travel Dist (mi)	2504.6
Travel Time (hr)	67.1
Avg Speed (mph)	37
Fuel Used (gal)	73.8
Fuel Eff. (mpg)	33.9
HC Emissions (g)	4274
CO Emissions (g)	101361
NOx Emissions (g)	11863
Vehicles Entered	1464
Vehicles Exited	1467
Hourly Exit Rate	1467
Input Volume	5862
% of Volume	25
Denied Entry Before	0
Denied Entry After	0

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	L	T	L	R
Maximum Queue (ft)	184	69	127	150	110	105	6
Average Queue (ft)	94	23	56	77	36	39	0
95th Queue (ft)	156	56	104	124	87	86	6
Link Distance (ft)	2742				1159	1583	1583
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		150	300	300			
Storage Blk Time (%)	1						
Queuing Penalty (veh)	0						

Intersection: 40: NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	59	75	78	38	48	56	83	23	55	61	63	44
Average Queue (ft)	14	29	19	4	14	12	23	2	15	16	14	15
95th Queue (ft)	43	62	55	20	38	41	61	16	43	44	43	40
Link Distance (ft)		3094	3094			3474	3474			662		1062
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			150	150		150	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Network Summary

Network wide Queuing Penalty: 0

29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.3	2.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	9.4	4.2	9.9	3.1	17.3	0.3	3.1	6.4
Travel Dist (mi)	106.2	41.1	72.0	54.4	9.2	0.2	102.7	385.8
Travel Time (hr)	2.5	1.0	2.8	1.4	0.3	0.0	2.5	10.6
Avg Speed (mph)	43	43	25	40	27	51	40	37
Fuel Used (gal)	2.7	1.0	2.8	2.5	0.2	0.0	1.7	11.0
Fuel Eff. (mpg)	38.6	39.8	25.6	21.8	39.6	28.1	59.8	34.9
HC Emissions (g)	243	76	169	164	20	4	133	808
CO Emissions (g)	5261	1684	4798	4787	400	65	2623	19619
NOx Emissions (g)	653	210	433	431	52	9	350	2138
Vehicles Entered	204	79	314	236	28	1	326	1188
Vehicles Exited	205	79	313	236	28	1	327	1189
Hourly Exit Rate	205	79	313	236	28	1	327	1189
Input Volume	210	80	320	230	30	1	330	1200
% of Volume	98	98	98	103	94	100	99	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.7	0.1	1.6	0.0	0.0	0.0	4.0	0.1	0.2	4.1	0.2	0.2
Total Del/Veh (s)	11.8	3.7	1.9	10.7	4.3	2.3	11.6	7.5	2.6	11.0	7.9	2.7
Travel Dist (mi)	10.6	172.5	10.2	12.6	228.8	13.8	2.2	1.1	2.5	2.8	1.8	2.8
Travel Time (hr)	0.3	3.5	0.2	0.3	4.6	0.3	0.2	0.1	0.1	0.2	0.1	0.1
Avg Speed (mph)	37	49	48	40	49	47	16	20	21	18	21	23
Fuel Used (gal)	0.3	4.7	0.3	0.3	5.8	0.3	0.1	0.0	0.1	0.1	0.0	0.1
Fuel Eff. (mpg)	37.7	36.6	35.9	41.7	39.1	42.4	36.2	39.1	44.0	37.0	41.2	42.8
HC Emissions (g)	24	411	35	20	517	45	2	1	3	4	2	6
CO Emissions (g)	516	8977	759	413	10704	892	29	19	51	68	30	87
NOx Emissions (g)	65	1127	89	57	1436	117	4	2	8	11	5	14
Vehicles Entered	19	318	19	20	352	22	18	9	21	17	11	18
Vehicles Exited	20	318	19	19	353	21	18	9	21	17	11	18
Hourly Exit Rate	20	318	19	19	353	21	18	9	21	17	11	18
Input Volume	20	320	20	20	360	20	20	10	20	20	10	20
% of Volume	99	99	94	94	98	104	89	88	104	84	107	89
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	4.6
Travel Dist (mi)	461.7
Travel Time (hr)	10.0
Avg Speed (mph)	47
Fuel Used (gal)	12.1
Fuel Eff. (mpg)	38.2
HC Emissions (g)	1069
CO Emissions (g)	22546
NOx Emissions (g)	2934
Vehicles Entered	844
Vehicles Exited	844
Hourly Exit Rate	844
Input Volume	862
% of Volume	98
Denied Entry Before	0
Denied Entry After	0

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	15.8
Travel Dist (mi)	2166.0
Travel Time (hr)	56.4
Avg Speed (mph)	39
Fuel Used (gal)	64.1
Fuel Eff. (mpg)	33.8
HC Emissions (g)	4877
CO Emissions (g)	109062
NOx Emissions (g)	13100
Vehicles Entered	1284
Vehicles Exited	1284
Hourly Exit Rate	1284
Input Volume	5214
% of Volume	25
Denied Entry Before	0
Denied Entry After	0

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	R	L	L	T	L
Maximum Queue (ft)	126	85	120	125	67	70
Average Queue (ft)	50	26	47	63	10	16
95th Queue (ft)	100	61	95	102	42	48
Link Distance (ft)	2741				1160	1642
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		150	300	300		
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 40: NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	59	76	68	43	66	78	89	48	59	59	61	60
Average Queue (ft)	17	24	12	5	16	16	30	4	14	16	14	16
95th Queue (ft)	46	59	44	24	46	56	72	23	44	44	42	46
Link Distance (ft)		2863	2863			3375	3375			640		841
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			150	150		150	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 144: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	2
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	1160
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.6	0.3	1.4	0.0	0.0	0.0	4.0	0.2	0.2	0.0	0.0	0.0
Total Del/Veh (s)	24.4	13.4	4.3	35.2	23.9	9.8	17.7	12.4	4.1	14.8	16.9	11.5
Travel Dist (mi)	215.2	287.2	29.1	35.4	282.0	15.6	4.1	0.8	4.2	5.0	1.7	84.9
Travel Time (hr)	7.4	7.3	0.7	1.3	8.3	0.4	0.4	0.1	0.2	0.3	0.1	5.1
Avg Speed (mph)	30	40	43	28	34	38	10	14	18	16	15	17
Fuel Used (gal)	5.7	7.7	0.8	1.3	9.5	0.5	0.2	0.0	0.1	0.2	0.1	3.0
Fuel Eff. (mpg)	37.8	37.4	38.0	28.2	29.6	30.8	25.5	30.1	40.7	25.8	26.0	28.0
HC Emissions (g)	335	443	60	84	571	40	6	0	4	9	4	145
CO Emissions (g)	7461	10676	1406	2069	14833	941	107	12	69	195	80	3011
NOx Emissions (g)	925	1254	158	225	1567	106	13	1	9	23	9	378
Vehicles Entered	394	527	54	46	360	20	47	9	48	28	10	471
Vehicles Exited	397	529	53	47	361	20	48	9	48	28	10	471
Hourly Exit Rate	397	529	53	47	361	20	48	9	48	28	10	471
Input Volume	400	530	50	50	360	20	50	10	50	30	10	470
% of Volume	99	100	106	94	100	99	96	88	96	94	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & Sterns Connection Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	17.2
Travel Dist (mi)	965.1
Travel Time (hr)	31.8
Avg Speed (mph)	31
Fuel Used (gal)	29.0
Fuel Eff. (mpg)	33.3
HC Emissions (g)	1699
CO Emissions (g)	40860
NOx Emissions (g)	4668
Vehicles Entered	2014
Vehicles Exited	2021
Hourly Exit Rate	2021
Input Volume	2031
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.4	0.6	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
Total Del/Veh (s)	26.5	16.8	5.8	21.6	11.8	5.0	26.5	28.9	11.7	23.4	24.8	8.4
Travel Dist (mi)	47.0	185.2	8.7	92.7	96.6	4.7	21.5	28.5	417.1	1.1	1.2	2.3
Travel Time (hr)	1.9	5.5	0.2	4.9	3.4	0.2	0.6	0.8	10.2	0.2	0.2	0.2
Avg Speed (mph)	25	34	38	19	28	30	33	34	41	6	7	11
Fuel Used (gal)	1.2	4.3	0.2	3.5	3.7	0.2	0.7	0.9	11.9	0.1	0.1	0.1
Fuel Eff. (mpg)	39.0	42.7	43.3	26.3	26.4	29.0	30.9	30.9	35.0	21.0	20.7	31.5
HC Emissions (g)	68	246	14	159	188	11	41	51	684	1	2	2
CO Emissions (g)	1526	5502	319	4574	5517	295	1061	1349	17647	26	41	48
NOx Emissions (g)	179	680	38	413	497	28	114	140	1889	3	5	6
Vehicles Entered	110	436	21	389	405	20	28	37	541	19	20	38
Vehicles Exited	110	439	20	385	404	20	27	36	540	19	20	38
Hourly Exit Rate	110	439	20	385	404	20	27	36	540	19	20	38
Input Volume	110	440	20	390	400	20	30	40	540	20	20	40
% of Volume	100	100	99	99	101	99	91	90	100	94	99	96
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	16.0
Travel Dist (mi)	906.6
Travel Time (hr)	28.4
Avg Speed (mph)	32
Fuel Used (gal)	26.8
Fuel Eff. (mpg)	33.8
HC Emissions (g)	1467
CO Emissions (g)	37907
NOx Emissions (g)	3991
Vehicles Entered	2064
Vehicles Exited	2058
Hourly Exit Rate	2058
Input Volume	2070
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.2	3.5	1.1	1.6
Total Del/Veh (s)	22.5	2.0	6.5	19.5	8.6	9.6	3.2	9.0
Travel Dist (mi)	7.5	0.1	71.0	4.6	9.6	67.7	3.9	164.4
Travel Time (hr)	0.6	0.0	3.7	0.3	0.4	3.6	0.1	8.7
Avg Speed (mph)	13	23	19	17	21	21	35	20
Fuel Used (gal)	0.3	0.0	2.6	0.1	0.3	1.8	0.1	5.2
Fuel Eff. (mpg)	22.8	22.7	27.8	32.2	34.7	38.1	35.5	31.6
HC Emissions (g)	11	0	131	6	16	76	6	246
CO Emissions (g)	265	3	2717	165	387	1806	171	5514
NOx Emissions (g)	31	0	351	16	42	188	15	644
Vehicles Entered	40	1	384	31	64	447	26	993
Vehicles Exited	40	1	383	31	64	445	26	990
Hourly Exit Rate	40	1	383	31	64	445	26	990
Input Volume	40	1	390	30	60	450	30	1000
% of Volume	101	133	98	104	107	99	87	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	1	0	1

137: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.6	4.6
Travel Dist (mi)	488.3	488.3
Travel Time (hr)	11.2	11.2
Avg Speed (mph)	44	44
Fuel Used (gal)	18.5	18.5
Fuel Eff. (mpg)	26.4	26.4
HC Emissions (g)	1209	1209
CO Emissions (g)	31431	31431
NOx Emissions (g)	3348	3348
Vehicles Entered	879	879
Vehicles Exited	881	881
Hourly Exit Rate	881	881
Input Volume	880	880
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

141: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.7	0.7
Travel Dist (mi)	10.9	10.9
Travel Time (hr)	0.4	0.4
Avg Speed (mph)	27	27
Fuel Used (gal)	0.4	0.4
Fuel Eff. (mpg)	29.8	29.8
HC Emissions (g)	16	16
CO Emissions (g)	336	336
NOx Emissions (g)	45	45
Vehicles Entered	66	66
Vehicles Exited	66	66
Hourly Exit Rate	66	66
Input Volume	70	70
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

142: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.0	1.0
Travel Dist (mi)	65.8	65.8
Travel Time (hr)	2.7	2.7
Avg Speed (mph)	24	24
Fuel Used (gal)	2.6	2.6
Fuel Eff. (mpg)	24.9	24.9
HC Emissions (g)	143	143
CO Emissions (g)	3066	3066
NOx Emissions (g)	395	395
Vehicles Entered	414	414
Vehicles Exited	413	413
Hourly Exit Rate	413	413
Input Volume	420	420
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	5.0	5.0
Travel Dist (mi)	206.6	206.6
Travel Time (hr)	4.6	4.6
Avg Speed (mph)	45	45
Fuel Used (gal)	7.6	7.6
Fuel Eff. (mpg)	27.2	27.2
HC Emissions (g)	487	487
CO Emissions (g)	12382	12382
NOx Emissions (g)	1368	1368
Vehicles Entered	470	470
Vehicles Exited	470	470
Hourly Exit Rate	470	470
Input Volume	470	470
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.8	0.4
Total Del/Veh (s)	10.2	1.1	6.1
Travel Dist (mi)	240.6	128.9	369.5
Travel Time (hr)	8.1	4.8	12.8
Avg Speed (mph)	30	28	29
Fuel Used (gal)	9.4	3.3	12.7
Fuel Eff. (mpg)	25.5	39.0	29.0
HC Emissions (g)	488	139	626
CO Emissions (g)	13686	2270	15956
NOx Emissions (g)	1323	358	1681
Vehicles Entered	998	815	1813
Vehicles Exited	995	813	1808
Hourly Exit Rate	995	813	1808
Input Volume	1000	810	1810
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.2	1.2
Travel Dist (mi)	12.1	12.1
Travel Time (hr)	0.6	0.6
Avg Speed (mph)	22	22
Fuel Used (gal)	0.7	0.7
Fuel Eff. (mpg)	17.9	17.9
HC Emissions (g)	38	38
CO Emissions (g)	904	904
NOx Emissions (g)	106	106
Vehicles Entered	166	166
Vehicles Exited	166	166
Hourly Exit Rate	166	166
Input Volume	170	170
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

146: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.4	1.4
Travel Dist (mi)	167.6	167.6
Travel Time (hr)	6.0	6.0
Avg Speed (mph)	28	28
Fuel Used (gal)	4.4	4.4
Fuel Eff. (mpg)	37.7	37.7
HC Emissions (g)	181	181
CO Emissions (g)	3232	3232
NOx Emissions (g)	473	473
Vehicles Entered	995	995
Vehicles Exited	995	995
Hourly Exit Rate	995	995
Input Volume	1000	1000
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

178: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.9	0.9
Travel Dist (mi)	10.9	10.9
Travel Time (hr)	0.5	0.5
Avg Speed (mph)	23	23
Fuel Used (gal)	0.5	0.5
Fuel Eff. (mpg)	20.5	20.5
HC Emissions (g)	32	32
CO Emissions (g)	722	722
NOx Emissions (g)	89	89
Vehicles Entered	110	110
Vehicles Exited	110	110
Hourly Exit Rate	110	110
Input Volume	110	110
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

Total Network Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	30.4
Travel Dist (mi)	3367.8
Travel Time (hr)	107.6
Avg Speed (mph)	32
Fuel Used (gal)	108.5
Fuel Eff. (mpg)	31.0
HC Emissions (g)	6146
CO Emissions (g)	152310
NOx Emissions (g)	16807
Vehicles Entered	3106
Vehicles Exited	3102
Hourly Exit Rate	3102
Input Volume	10032
% of Volume	31
Denied Entry Before	0
Denied Entry After	1

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	R	L	T	T	R	L	TR	LT
Maximum Queue (ft)	181	192	157	162	77	114	168	171	61	90	67	83
Average Queue (ft)	78	110	63	72	16	39	85	79	12	26	20	19
95th Queue (ft)	145	168	124	135	52	88	143	142	42	63	49	55
Link Distance (ft)			2866	2866			4036	4036			447	868
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			150	150			150	150		
Storage Blk Time (%)				0		0	1	1				
Queuing Penalty (veh)				0		0	0	0				

Intersection: 28: NCC & Sterns Connection

Movement	SB
Directions Served	R
Maximum Queue (ft)	252
Average Queue (ft)	135
95th Queue (ft)	224
Link Distance (ft)	868
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	LT	R	LTR
Maximum Queue (ft)	150	247	73	184	200	225	59	100	9	104
Average Queue (ft)	63	123	11	80	101	94	8	33	0	39
95th Queue (ft)	116	209	48	144	160	178	36	81	6	81
Link Distance (ft)		2237				1205		4036	4036	303
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	200		200	300	300		150			
Storage Blk Time (%)		1				1				
Queuing Penalty (veh)		1				6				

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	115	206	112	227	31
Average Queue (ft)	32	69	46	108	2
95th Queue (ft)	82	159	90	180	15
Link Distance (ft)	868	868	795		801
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				300	
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Intersection: 144: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	4
Average Queue (ft)	0
95th Queue (ft)	4
Link Distance (ft)	1205
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 8

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.7	0.2	1.6	0.0	0.0	0.0	3.9	0.4	0.3	0.0	0.0	0.0
Total Del/Veh (s)	18.9	8.1	2.8	28.6	17.8	9.5	19.1	16.9	4.0	17.9	19.1	8.5
Travel Dist (mi)	186.8	182.3	28.2	39.1	328.3	17.1	3.7	0.9	4.3	3.5	1.7	43.2
Travel Time (hr)	5.9	4.1	0.6	1.3	9.0	0.5	0.4	0.1	0.3	0.2	0.1	2.4
Avg Speed (mph)	32	44	45	30	37	38	10	11	17	15	15	18
Fuel Used (gal)	4.9	5.0	0.8	1.4	11.1	0.6	0.2	0.0	0.1	0.1	0.1	1.6
Fuel Eff. (mpg)	37.8	36.4	36.8	28.6	29.5	30.9	23.9	29.2	39.5	24.7	24.7	27.3
HC Emissions (g)	369	405	70	90	885	48	5	1	4	9	3	92
CO Emissions (g)	7906	9162	1592	2253	21260	1112	101	21	81	186	64	1890
NOx Emissions (g)	997	1099	184	241	2349	129	12	3	10	23	7	242
Vehicles Entered	341	332	52	51	423	22	46	10	52	20	10	243
Vehicles Exited	340	332	52	50	421	22	46	10	52	20	10	243
Hourly Exit Rate	340	332	52	50	421	22	46	10	52	20	10	243
Input Volume	340	340	50	50	430	20	50	10	50	20	10	250
% of Volume	100	98	104	100	98	109	92	98	104	99	98	97
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & Sterns Connection Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	14.0
Travel Dist (mi)	839.2
Travel Time (hr)	25.0
Avg Speed (mph)	34
Fuel Used (gal)	25.9
Fuel Eff. (mpg)	32.5
HC Emissions (g)	1983
CO Emissions (g)	45628
NOx Emissions (g)	5298
Vehicles Entered	1602
Vehicles Exited	1598
Hourly Exit Rate	1598
Input Volume	1621
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.6	0.4	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3
Total Del/Veh (s)	27.1	16.5	5.9	19.4	11.2	4.6	23.0	24.5	7.5	18.7	22.9	11.2
Travel Dist (mi)	12.2	110.6	12.1	103.8	126.1	2.9	12.3	8.3	289.0	1.2	1.9	6.5
Travel Time (hr)	0.5	3.3	0.3	5.2	4.3	0.1	0.4	0.2	6.7	0.2	0.3	0.7
Avg Speed (mph)	25	34	38	20	29	30	35	36	43	8	7	10
Fuel Used (gal)	0.3	2.9	0.3	3.8	4.7	0.1	0.4	0.3	8.0	0.1	0.1	0.3
Fuel Eff. (mpg)	35.8	38.1	40.5	27.6	27.0	30.5	32.1	31.8	36.0	21.4	19.9	25.9
HC Emissions (g)	22	204	25	223	297	6	31	10	643	2	3	10
CO Emissions (g)	508	4615	566	5487	7651	156	727	297	15041	40	60	194
NOx Emissions (g)	58	548	66	573	783	15	84	30	1713	5	7	23
Vehicles Entered	29	261	28	435	528	12	16	11	378	20	32	110
Vehicles Exited	29	262	28	435	528	12	16	11	378	20	32	110
Hourly Exit Rate	29	262	28	435	528	12	16	11	378	20	32	110
Input Volume	30	260	30	440	520	10	20	10	380	20	30	110
% of Volume	97	101	94	99	102	117	79	105	100	99	108	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	13.7
Travel Dist (mi)	686.9
Travel Time (hr)	22.1
Avg Speed (mph)	31
Fuel Used (gal)	21.1
Fuel Eff. (mpg)	32.5
HC Emissions (g)	1476
CO Emissions (g)	35342
NOx Emissions (g)	3905
Vehicles Entered	1860
Vehicles Exited	1861
Hourly Exit Rate	1861
Input Volume	1860
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	3.7	0.6	1.3
Total Del/Veh (s)	13.4	0.9	5.8	11.8	4.2	8.7	3.2	7.2
Travel Dist (mi)	7.2	0.2	61.0	3.0	6.2	35.2	3.2	116.0
Travel Time (hr)	0.4	0.0	3.1	0.1	0.2	1.8	0.1	5.9
Avg Speed (mph)	16	21	19	23	27	22	36	21
Fuel Used (gal)	0.3	0.0	2.2	0.1	0.1	0.9	0.1	3.7
Fuel Eff. (mpg)	24.8	18.2	27.6	40.3	41.6	38.8	39.7	31.2
HC Emissions (g)	14	1	138	6	8	49	6	223
CO Emissions (g)	310	23	2788	126	184	1075	138	4644
NOx Emissions (g)	38	3	364	15	22	124	15	582
Vehicles Entered	39	2	332	20	41	233	21	688
Vehicles Exited	39	2	333	20	41	231	21	687
Hourly Exit Rate	39	2	333	20	41	231	21	687
Input Volume	40	1	330	20	40	240	20	691
% of Volume	98	200	101	99	103	96	104	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

Total Network Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	25.3
Travel Dist (mi)	2830.7
Travel Time (hr)	86.4
Avg Speed (mph)	33
Fuel Used (gal)	92.8
Fuel Eff. (mpg)	30.5
HC Emissions (g)	6722
CO Emissions (g)	156883
NOx Emissions (g)	17927
Vehicles Entered	2603
Vehicles Exited	2603
Hourly Exit Rate	2603
Input Volume	8412
% of Volume	31
Denied Entry Before	0
Denied Entry After	0

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	R	L	T	T	R	L	TR	LT
Maximum Queue (ft)	141	162	98	99	49	123	178	167	63	83	74	70
Average Queue (ft)	58	87	35	30	10	36	75	78	16	26	19	21
95th Queue (ft)	110	138	78	74	34	85	139	141	49	64	50	54
Link Distance (ft)			2884	2884			4016	4016			419	863
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			150	150			150	150		
Storage Blk Time (%)				0		0	1	1				
Queuing Penalty (veh)				0		0	0	0				

Intersection: 28: NCC & Sterns Connection

Movement	SB
Directions Served	R
Maximum Queue (ft)	151
Average Queue (ft)	77
95th Queue (ft)	128
Link Distance (ft)	863
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	LT	R	LTR
Maximum Queue (ft)	75	182	63	173	194	231	42	68	11	167
Average Queue (ft)	23	88	14	84	109	97	4	14	0	67
95th Queue (ft)	58	155	44	152	170	192	21	45	5	129
Link Distance (ft)		2232				1205		4016	4016	303
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	200		200	300	300		150			
Storage Blk Time (%)		0				2				
Queuing Penalty (veh)		0				9				

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	100	194	73	160	44
Average Queue (ft)	26	73	29	72	3
95th Queue (ft)	70	147	63	129	22
Link Distance (ft)	863	863	795		801
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				300	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 9

29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.3	3.7	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	12.9	4.4	13.1	4.5	18.9	0.6	3.9	8.9
Travel Dist (mi)	85.1	14.1	86.5	53.8	28.0	0.2	132.1	399.8
Travel Time (hr)	2.4	0.4	3.7	1.4	1.1	0.0	3.4	12.3
Avg Speed (mph)	36	39	24	38	25	51	39	33
Fuel Used (gal)	2.3	0.4	3.4	2.3	0.7	0.0	2.1	11.2
Fuel Eff. (mpg)	37.6	38.3	25.6	22.9	40.6	43.4	62.5	35.8
HC Emissions (g)	150	29	152	139	38	0	124	632
CO Emissions (g)	3580	685	4811	4250	776	1	2497	16600
NOx Emissions (g)	403	77	401	369	105	0	334	1690
Vehicles Entered	216	36	360	223	89	1	439	1364
Vehicles Exited	216	36	361	224	89	1	438	1365
Hourly Exit Rate	216	36	361	224	89	1	438	1365
Input Volume	220	40	360	220	90	1	440	1370
% of Volume	98	91	100	102	99	133	100	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.5	0.1	1.2	0.0	0.0	0.0	4.2	0.1	0.2	4.2	0.1	0.2
Total Del/Veh (s)	11.1	4.2	1.8	12.2	4.5	2.4	11.7	8.6	3.2	12.2	8.5	3.1
Travel Dist (mi)	12.5	294.0	12.3	11.3	240.4	13.7	2.2	1.3	2.5	3.6	1.8	3.7
Travel Time (hr)	0.3	6.0	0.3	0.3	4.9	0.3	0.2	0.1	0.1	0.2	0.1	0.2
Avg Speed (mph)	39	49	48	40	49	47	16	19	21	19	21	23
Fuel Used (gal)	0.3	7.9	0.3	0.3	6.1	0.3	0.1	0.0	0.1	0.1	0.0	0.1
Fuel Eff. (mpg)	40.6	37.2	38.0	40.4	39.5	42.7	35.2	38.4	43.3	36.9	39.9	43.4
HC Emissions (g)	22	513	33	15	427	22	1	1	3	1	2	3
CO Emissions (g)	469	11638	714	318	9044	465	26	22	45	28	28	53
NOx Emissions (g)	62	1487	88	46	1236	65	3	3	7	4	4	8
Vehicles Entered	21	490	21	17	360	21	17	10	19	19	10	20
Vehicles Exited	21	491	20	17	359	20	17	10	19	19	10	20
Hourly Exit Rate	21	491	20	17	359	20	17	10	19	19	10	20
Input Volume	20	490	20	20	360	20	20	10	20	20	10	20
% of Volume	104	100	99	84	100	99	84	98	94	94	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	4.8
Travel Dist (mi)	599.3
Travel Time (hr)	12.8
Avg Speed (mph)	47
Fuel Used (gal)	15.6
Fuel Eff. (mpg)	38.4
HC Emissions (g)	1044
CO Emissions (g)	22850
NOx Emissions (g)	3014
Vehicles Entered	1025
Vehicles Exited	1023
Hourly Exit Rate	1023
Input Volume	1032
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

142: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.9	0.9
Travel Dist (mi)	10.0	10.0
Travel Time (hr)	0.4	0.4
Avg Speed (mph)	26	26
Fuel Used (gal)	0.4	0.4
Fuel Eff. (mpg)	28.2	28.2
HC Emissions (g)	20	20
CO Emissions (g)	409	409
NOx Emissions (g)	53	53
Vehicles Entered	51	51
Vehicles Exited	51	51
Hourly Exit Rate	51	51
Input Volume	51	51
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.9	0.9
Travel Dist (mi)	6.7	6.7
Travel Time (hr)	0.3	0.3
Avg Speed (mph)	25	25
Fuel Used (gal)	0.3	0.3
Fuel Eff. (mpg)	25.0	25.0
HC Emissions (g)	16	16
CO Emissions (g)	344	344
NOx Emissions (g)	44	44
Vehicles Entered	47	47
Vehicles Exited	48	48
Hourly Exit Rate	48	48
Input Volume	51	51
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.5	0.2
Total Del/Veh (s)	7.4	2.5	5.1
Travel Dist (mi)	157.9	238.6	396.5
Travel Time (hr)	4.9	8.5	13.4
Avg Speed (mph)	32	28	30
Fuel Used (gal)	6.4	5.9	12.3
Fuel Eff. (mpg)	24.7	40.7	32.3
HC Emissions (g)	362	240	603
CO Emissions (g)	10761	3740	14501
NOx Emissions (g)	953	622	1575
Vehicles Entered	654	584	1238
Vehicles Exited	653	583	1236
Hourly Exit Rate	653	583	1236
Input Volume	660	580	1240
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

191: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.7	2.7
Travel Dist (mi)	242.3	242.3
Travel Time (hr)	4.8	4.8
Avg Speed (mph)	50	50
Fuel Used (gal)	7.4	7.4
Fuel Eff. (mpg)	32.8	32.8
HC Emissions (g)	474	474
CO Emissions (g)	11266	11266
NOx Emissions (g)	1370	1370
Vehicles Entered	396	396
Vehicles Exited	397	397
Hourly Exit Rate	397	397
Input Volume	401	401
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

192: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.2	2.2
Travel Dist (mi)	127.1	127.1
Travel Time (hr)	2.7	2.7
Avg Speed (mph)	47	47
Fuel Used (gal)	4.3	4.3
Fuel Eff. (mpg)	29.4	29.4
HC Emissions (g)	318	318
CO Emissions (g)	7852	7852
NOx Emissions (g)	870	870
Vehicles Entered	313	313
Vehicles Exited	311	311
Hourly Exit Rate	311	311
Input Volume	310	310
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

195: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.2	3.2
Travel Dist (mi)	273.1	273.1
Travel Time (hr)	9.8	9.8
Avg Speed (mph)	28	28
Fuel Used (gal)	6.8	6.8
Fuel Eff. (mpg)	40.4	40.4
HC Emissions (g)	280	280
CO Emissions (g)	4470	4470
NOx Emissions (g)	720	720
Vehicles Entered	653	653
Vehicles Exited	651	651
Hourly Exit Rate	651	651
Input Volume	660	660
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

198: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	3.5	1.5	2.6
Travel Dist (mi)	355.6	124.9	480.5
Travel Time (hr)	7.1	3.2	10.3
Avg Speed (mph)	50	39	47
Fuel Used (gal)	11.0	6.0	17.0
Fuel Eff. (mpg)	32.3	20.7	28.2
HC Emissions (g)	704	328	1032
CO Emissions (g)	17194	10092	27286
NOx Emissions (g)	2015	898	2912
Vehicles Entered	530	397	927
Vehicles Exited	529	397	926
Hourly Exit Rate	529	397	926
Input Volume	530	400	930
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	19.7
Travel Dist (mi)	2535.4
Travel Time (hr)	66.8
Avg Speed (mph)	38
Fuel Used (gal)	75.2
Fuel Eff. (mpg)	33.7
HC Emissions (g)	4420
CO Emissions (g)	105577
NOx Emissions (g)	12249
Vehicles Entered	1464
Vehicles Exited	1459
Hourly Exit Rate	1459
Input Volume	6045
% of Volume	24
Denied Entry Before	0
Denied Entry After	0

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	L	T	L	R
Maximum Queue (ft)	151	59	117	145	84	114	11
Average Queue (ft)	66	18	56	75	20	43	1
95th Queue (ft)	124	48	99	121	61	91	10
Link Distance (ft)	2075				1214	1587	1587
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		150	300	300			
Storage Blk Time (%)	0						
Queuing Penalty (veh)	0						

Intersection: 40: NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	56	75	78	30	49	81	84	33	54	61	48	70
Average Queue (ft)	16	27	20	3	12	15	24	4	13	19	15	18
95th Queue (ft)	42	62	58	17	37	51	63	20	41	50	41	49
Link Distance (ft)		3157	3157			3476	3476			681		965
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			150	150		150	
Storage Blk Time (%)			0			0						
Queuing Penalty (veh)			0			0						

Network Summary

Network wide Queuing Penalty: 0

29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.4	3.7	0.0	0.0	0.0	0.0	0.0	0.3
Total Del/Veh (s)	10.7	4.3	10.2	3.5	16.9	0.1	3.4	7.0
Avg Speed (mph)	38	40	25	39	27	50	40	34
Fuel Used (gal)	1.8	0.8	3.2	2.1	0.3	0.0	1.9	10.2
Fuel Eff. (mpg)	37.3	37.8	25.8	22.0	40.0	27.3	60.0	34.7
HC Emissions (g)	151	53	192	124	21	5	139	685
CO Emissions (g)	3437	1270	5450	3857	427	89	2740	17270
NOx Emissions (g)	400	145	495	331	57	12	367	1807
Vehicles Entered	173	79	360	204	41	2	360	1219
Vehicles Exited	173	79	359	205	41	2	361	1220
Hourly Exit Rate	173	79	359	205	41	2	361	1220
Input Volume	180	80	360	200	40	1	360	1221
% of Volume	96	98	100	103	103	200	100	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.5	0.1	1.2	0.0	0.0	0.0	4.2	0.1	0.2	4.1	0.2	0.1
Total Del/Veh (s)	10.7	3.8	1.6	11.3	4.3	2.2	11.2	8.4	2.3	11.5	7.5	2.8
Avg Speed (mph)	40	50	49	40	49	47	16	19	22	17	21	23
Fuel Used (gal)	0.3	6.0	0.3	0.3	6.6	0.3	0.1	0.0	0.1	0.1	0.0	0.1
Fuel Eff. (mpg)	37.4	36.6	38.0	40.4	39.4	42.7	35.7	38.1	44.0	36.4	39.7	43.0
HC Emissions (g)	33	490	36	25	584	49	1	1	3	3	1	5
CO Emissions (g)	666	10717	769	501	12092	961	27	23	50	52	23	74
NOx Emissions (g)	86	1359	95	69	1622	126	4	3	8	8	3	12
Vehicles Entered	18	367	22	18	398	22	17	10	17	19	10	20
Vehicles Exited	18	366	22	19	396	22	18	10	18	19	10	20
Hourly Exit Rate	18	366	22	19	396	22	18	10	18	19	10	20
Input Volume	20	360	20	20	401	20	20	10	20	20	10	20
% of Volume	89	102	109	94	99	109	89	98	89	94	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	4.5
Avg Speed (mph)	47
Fuel Used (gal)	14.2
Fuel Eff. (mpg)	38.3
HC Emissions (g)	1231
CO Emissions (g)	25956
NOx Emissions (g)	3395
Vehicles Entered	938
Vehicles Exited	938
Hourly Exit Rate	938
Input Volume	944
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	16.8
Avg Speed (mph)	39
Fuel Used (gal)	67.8
Fuel Eff. (mpg)	33.5
HC Emissions (g)	4960
CO Emissions (g)	112191
NOx Emissions (g)	13381
Vehicles Entered	1317
Vehicles Exited	1317
Hourly Exit Rate	1317
Input Volume	5428
% of Volume	24
Denied Entry Before	0
Denied Entry After	0

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	L	T	L	R
Maximum Queue (ft)	132	77	115	130	71	69	6
Average Queue (ft)	52	29	51	69	13	21	0
95th Queue (ft)	106	62	92	110	48	51	6
Link Distance (ft)	2075				1162	1636	1636
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		150	300	300			
Storage Blk Time (%)	0						
Queuing Penalty (veh)	0						

Intersection: 40: NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	57	73	81	38	65	74	92	44	55	62	64	56
Average Queue (ft)	15	25	17	5	14	16	28	4	13	15	15	15
95th Queue (ft)	44	59	51	24	43	52	71	22	40	44	47	43
Link Distance (ft)		3135	3135			3427	3427			665		792
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			150	150		150	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Network Summary

Network wide Queuing Penalty: 0

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.6	0.3	1.5	0.0	0.0	0.0	4.0	0.3	0.2	0.0	0.0	0.0
Total Del/Veh (s)	22.4	11.6	3.9	31.7	20.9	10.6	18.8	15.9	4.8	17.5	18.3	10.4
Travel Dist (mi)	228.8	304.0	27.5	35.5	303.6	16.1	2.9	0.5	2.7	3.2	1.8	68.9
Travel Time (hr)	7.7	7.4	0.7	1.2	8.6	0.4	0.4	0.1	0.2	0.2	0.1	4.1
Avg Speed (mph)	31	41	43	29	35	37	7	9	14	15	15	17
Fuel Used (gal)	6.0	8.1	0.7	1.2	10.3	0.5	0.1	0.0	0.1	0.1	0.1	2.5
Fuel Eff. (mpg)	38.0	37.4	37.8	28.7	29.6	31.5	20.2	25.7	40.4	25.7	25.0	27.5
HC Emissions (g)	365	508	57	76	597	46	3	1	2	3	3	118
CO Emissions (g)	8128	12060	1343	1935	15747	1063	78	12	40	82	71	2485
NOx Emissions (g)	1005	1424	152	204	1651	122	7	1	4	8	8	311
Vehicles Entered	421	560	50	46	395	21	52	9	49	18	11	389
Vehicles Exited	421	559	50	46	393	21	52	9	49	18	10	389
Hourly Exit Rate	421	559	50	46	393	21	52	9	49	18	10	389
Input Volume	430	570	50	50	391	20	50	10	50	20	10	390
% of Volume	98	98	100	92	101	104	104	88	98	89	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & Sterns Connection Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	15.9
Travel Dist (mi)	995.5
Travel Time (hr)	31.2
Avg Speed (mph)	32
Fuel Used (gal)	29.8
Fuel Eff. (mpg)	33.4
HC Emissions (g)	1779
CO Emissions (g)	43044
NOx Emissions (g)	4899
Vehicles Entered	2021
Vehicles Exited	2017
Hourly Exit Rate	2017
Input Volume	2042
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.5	0.6	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2
Total Del/Veh (s)	26.7	17.6	5.9	20.7	11.7	5.0	25.4	27.2	12.0	21.3	22.7	8.1
Travel Dist (mi)	45.8	172.9	8.9	100.4	90.1	4.5	21.7	29.6	424.5	1.2	1.2	2.3
Travel Time (hr)	1.9	5.2	0.2	5.2	3.1	0.2	0.6	0.9	10.4	0.2	0.2	0.2
Avg Speed (mph)	25	33	38	19	29	30	34	35	41	7	7	12
Fuel Used (gal)	1.2	4.1	0.2	3.8	3.4	0.1	0.7	1.0	11.9	0.1	0.1	0.1
Fuel Eff. (mpg)	38.1	42.2	42.4	26.6	26.3	30.4	30.8	31.1	35.8	22.3	21.2	30.6
HC Emissions (g)	65	228	12	171	155	9	32	53	740	1	2	2
CO Emissions (g)	1475	5175	284	4954	4851	243	899	1385	18511	26	38	47
NOx Emissions (g)	175	632	34	444	418	23	92	147	2025	3	4	5
Vehicles Entered	107	405	21	420	378	19	28	39	560	20	20	40
Vehicles Exited	108	403	21	421	377	19	28	39	558	19	21	39
Hourly Exit Rate	108	403	21	421	377	19	28	39	558	19	21	39
Input Volume	110	410	20	420	370	20	30	40	570	20	20	40
% of Volume	98	98	104	100	102	94	94	96	98	94	104	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	16.1
Travel Dist (mi)	903.1
Travel Time (hr)	28.3
Avg Speed (mph)	32
Fuel Used (gal)	26.6
Fuel Eff. (mpg)	34.0
HC Emissions (g)	1470
CO Emissions (g)	37889
NOx Emissions (g)	4002
Vehicles Entered	2057
Vehicles Exited	2053
Hourly Exit Rate	2053
Input Volume	2072
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0		0.0	0.2	0.2	3.6	1.0	1.5
Total Del/Veh (s)	20.7		6.5	17.6	7.1	9.7	3.3	8.9
Travel Dist (mi)	10.6	0.0	71.9	4.7	7.6	55.8	4.5	155.1
Travel Time (hr)	0.8	0.0	3.8	0.3	0.3	3.0	0.1	8.3
Avg Speed (mph)	14	20	19	18	23	21	35	20
Fuel Used (gal)	0.4	0.0	2.6	0.1	0.2	1.5	0.1	5.0
Fuel Eff. (mpg)	23.7	17.4	27.8	34.8	36.0	37.3	36.7	31.0
HC Emissions (g)	20	0	138	5	12	60	7	243
CO Emissions (g)	426	1	2882	129	281	1476	194	5389
NOx Emissions (g)	53	0	367	13	31	153	19	636
Vehicles Entered	58	0	393	31	50	368	30	930
Vehicles Exited	57	0	393	31	50	367	30	928
Hourly Exit Rate	57	0	393	31	50	367	30	928
Input Volume	60	0	400	30	50	370	30	940
% of Volume	95	0	98	104	100	99	101	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	29.8
Travel Dist (mi)	3346.9
Travel Time (hr)	105.6
Avg Speed (mph)	32
Fuel Used (gal)	107.3
Fuel Eff. (mpg)	31.2
HC Emissions (g)	6039
CO Emissions (g)	150431
NOx Emissions (g)	16554
Vehicles Entered	3051
Vehicles Exited	3041
Hourly Exit Rate	3041
Input Volume	9934
% of Volume	31
Denied Entry Before	0
Denied Entry After	0

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	R	L	T	T	R	L	TR	LT
Maximum Queue (ft)	173	192	145	159	60	104	161	156	67	101	87	62
Average Queue (ft)	79	113	64	71	15	31	77	75	15	32	25	17
95th Queue (ft)	145	169	122	131	44	73	139	133	47	75	63	48
Link Distance (ft)			2865	2865			3996	3996			285	854
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			150	150			150	150		
Storage Blk Time (%)				0		0	0	0		0		
Queuing Penalty (veh)				0		0	0	0		0		

Intersection: 28: NCC & Sterns Connection

Movement	SB
Directions Served	R
Maximum Queue (ft)	218
Average Queue (ft)	111
95th Queue (ft)	183
Link Distance (ft)	854
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	LT	R	LTR
Maximum Queue (ft)	145	227	53	169	204	214	47	97	10	108
Average Queue (ft)	64	117	10	82	106	85	7	34	0	37
95th Queue (ft)	120	203	35	141	166	168	32	76	8	78
Link Distance (ft)		2253				1205		3996	3996	303
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	200		200	300	300		150			
Storage Blk Time (%)	0	1				1				
Queuing Penalty (veh)	0	1				4				

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	127	242	103	189	48
Average Queue (ft)	42	78	39	100	4
95th Queue (ft)	97	177	80	162	25
Link Distance (ft)	854	854	795		801
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				300	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 6

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.7	0.2	1.5	0.0	0.0	0.0	4.0	0.3	0.3	0.0	0.0	0.0
Total Del/Veh (s)	21.5	9.6	3.1	28.9	18.3	9.1	18.2	16.0	3.6	18.1	16.8	9.7
Travel Dist (mi)	152.0	191.2	28.4	36.9	368.6	16.4	4.0	0.8	4.0	3.7	2.0	51.2
Travel Time (hr)	5.0	4.5	0.7	1.2	10.2	0.4	0.5	0.1	0.2	0.3	0.1	3.0
Avg Speed (mph)	31	43	45	30	36	38	10	11	17	15	15	17
Fuel Used (gal)	4.1	5.2	0.8	1.3	12.4	0.5	0.2	0.0	0.1	0.1	0.1	1.9
Fuel Eff. (mpg)	37.3	37.0	36.5	29.0	29.8	31.1	24.8	28.7	40.4	25.0	24.3	26.9
HC Emissions (g)	306	435	72	76	976	56	6	1	5	9	4	122
CO Emissions (g)	6544	9700	1656	1952	23492	1245	109	24	89	180	94	2417
NOx Emissions (g)	824	1177	187	207	2597	147	13	3	12	22	11	315
Vehicles Entered	279	349	52	48	477	21	50	10	49	21	11	291
Vehicles Exited	280	351	52	48	476	21	50	10	49	21	11	290
Hourly Exit Rate	280	351	52	48	476	21	50	10	49	21	11	290
Input Volume	280	350	50	50	480	20	50	10	50	20	10	290
% of Volume	100	100	104	96	99	104	100	98	98	104	105	100

28: NCC & Sterns Connection Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	14.8
Travel Dist (mi)	859.0
Travel Time (hr)	26.1
Avg Speed (mph)	33
Fuel Used (gal)	26.6
Fuel Eff. (mpg)	32.3
HC Emissions (g)	2068
CO Emissions (g)	47504
NOx Emissions (g)	5516
Vehicles Entered	1658
Vehicles Exited	1659
Hourly Exit Rate	1659
Input Volume	1662
% of Volume	100

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.6	0.4	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
Total Del/Veh (s)	28.3	16.8	6.1	18.0	10.4	4.8	22.8	21.6	8.6	20.4	21.6	10.2
Travel Dist (mi)	11.6	107.5	16.9	113.4	115.3	2.7	14.2	8.0	299.5	1.2	1.8	6.4
Travel Time (hr)	0.5	3.2	0.5	5.5	3.9	0.1	0.4	0.2	7.0	0.2	0.2	0.6
Avg Speed (mph)	25	34	38	21	30	30	35	37	43	7	7	10
Fuel Used (gal)	0.3	2.8	0.4	4.1	4.3	0.1	0.4	0.3	8.4	0.1	0.1	0.2
Fuel Eff. (mpg)	34.5	38.9	39.9	27.8	26.7	31.5	31.7	32.0	35.6	21.3	20.7	26.8
HC Emissions (g)	25	199	39	234	276	4	29	18	692	1	4	10
CO Emissions (g)	551	4495	855	5897	7193	127	730	441	16140	29	70	205
NOx Emissions (g)	63	531	101	605	729	12	80	50	1841	3	8	25
Vehicles Entered	28	254	40	475	483	11	18	10	393	21	30	109
Vehicles Exited	27	254	40	475	483	11	18	10	392	21	30	108
Hourly Exit Rate	27	254	40	475	483	11	18	10	392	21	30	108
Input Volume	30	250	40	480	480	10	20	10	390	20	30	110
% of Volume	91	101	101	99	101	107	89	95	101	104	101	98

29: NCC & SR 120/108 Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	13.4
Travel Dist (mi)	698.7
Travel Time (hr)	22.3
Avg Speed (mph)	31
Fuel Used (gal)	21.5
Fuel Eff. (mpg)	32.5
HC Emissions (g)	1532
CO Emissions (g)	36732
NOx Emissions (g)	4048
Vehicles Entered	1872
Vehicles Exited	1869
Hourly Exit Rate	1869
Input Volume	1871
% of Volume	100

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	3.7	0.8	1.6
Total Del/Veh (s)	13.4	0.8	5.2	12.8	4.4	9.4	3.2	7.5
Travel Dist (mi)	6.3	0.1	50.1	2.7	5.9	43.1	3.2	111.4
Travel Time (hr)	0.4	0.0	2.6	0.1	0.2	2.3	0.1	5.7
Avg Speed (mph)	16	21	20	22	26	22	35	21
Fuel Used (gal)	0.3	0.0	1.8	0.1	0.1	1.1	0.1	3.5
Fuel Eff. (mpg)	25.0	15.3	27.6	37.6	41.6	37.9	38.3	31.8
HC Emissions (g)	16	2	112	4	11	63	7	214
CO Emissions (g)	320	27	2265	100	227	1390	153	4481
NOx Emissions (g)	41	4	294	11	29	158	17	553
Vehicles Entered	35	1	275	18	39	284	21	673
Vehicles Exited	35	1	276	18	39	284	21	674
Hourly Exit Rate	35	1	276	18	39	284	21	674
Input Volume	40	1	270	20	40	280	20	671
% of Volume	88	100	102	89	98	101	104	100

Total Network Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	26.1
Travel Dist (mi)	2886.8
Travel Time (hr)	88.0
Avg Speed (mph)	33
Fuel Used (gal)	94.5
Fuel Eff. (mpg)	30.5
HC Emissions (g)	7008
CO Emissions (g)	163334
NOx Emissions (g)	18651
Vehicles Entered	2603
Vehicles Exited	2601
Hourly Exit Rate	2601
Input Volume	8437
% of Volume	31

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	R	L	T	T	R	L	TR	LT
Maximum Queue (ft)	138	156	106	114	46	99	179	176	72	106	58	75
Average Queue (ft)	47	81	41	35	10	30	77	82	11	28	17	21
95th Queue (ft)	104	135	88	84	32	72	147	147	45	73	42	55
Link Distance (ft)			2871	2871			4007	4007			413	850
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			150	150			100	150		
Storage Blk Time (%)				0		0	1	4		0		
Queuing Penalty (veh)				0		0	0	1		0		

Intersection: 28: NCC & Sterns Connection

Movement	SB
Directions Served	R
Maximum Queue (ft)	186
Average Queue (ft)	92
95th Queue (ft)	156
Link Distance (ft)	850
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	LT	R	LTR
Maximum Queue (ft)	79	188	70	178	192	226	62	68	6	151
Average Queue (ft)	22	91	22	88	107	82	4	16	0	66
95th Queue (ft)	58	165	55	151	169	169	33	47	6	125
Link Distance (ft)		2231				1205		4007	4007	303
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	200		200	300	300		150			
Storage Blk Time (%)		0				1				
Queuing Penalty (veh)		0				6				

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	81	179	88	168	40
Average Queue (ft)	24	60	30	85	3
95th Queue (ft)	61	128	69	140	20
Link Distance (ft)	850	850	795		801
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				300	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 7

APPENDIX S:
2042 SIGNAL WARRANT ANALYSIS WORKSHEETS

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

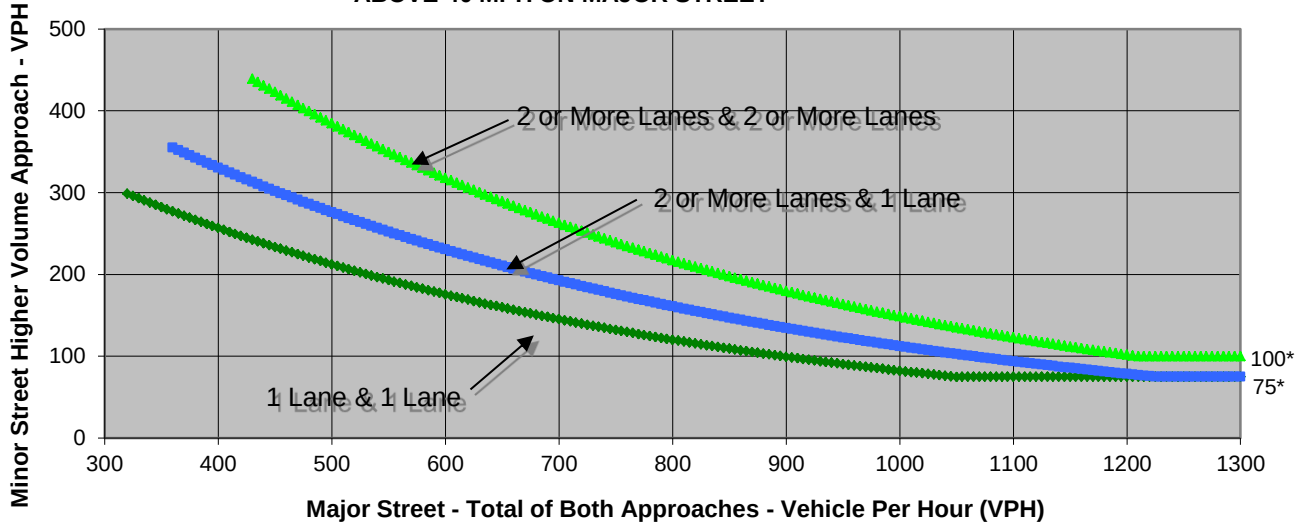
	NB	SB	EB	WB
Left	20	30	980	280
Through	740	400	390	460
Right	260	420	160	80
Total	1,020	850	1,530	820

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**5**	**YES**
Traffic Volume (VPH) *	**2,350**	**1,020**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

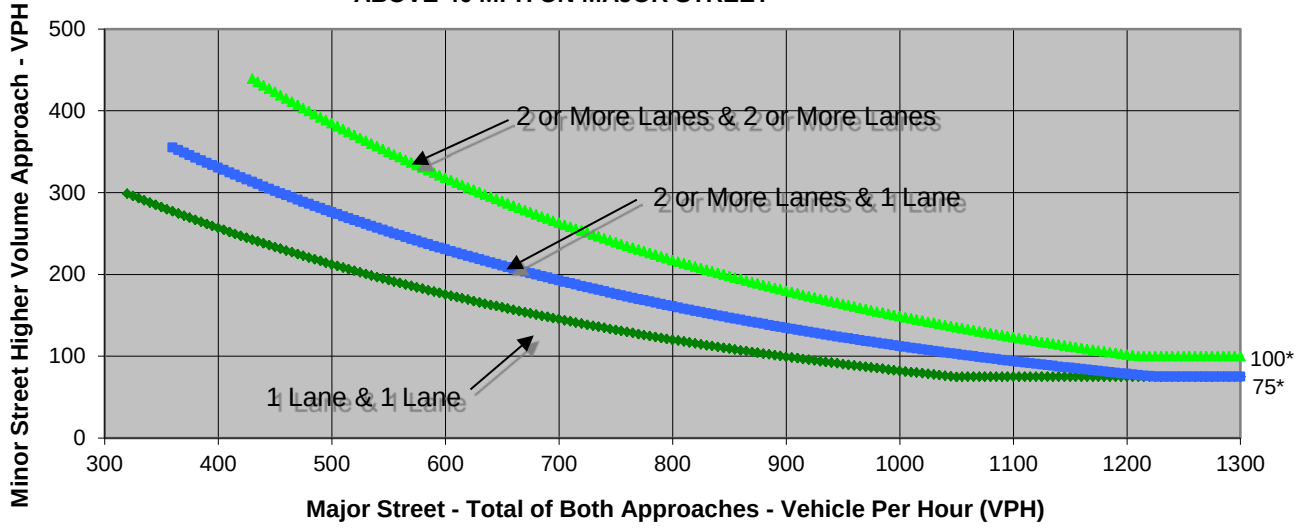
	NB	SB	EB	WB
Left	20	100	630	260
Through	530	790	630	530
Right	320	1,090	40	40
Total	870	1,980	1,300	830

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**5**	**YES**
Traffic Volume (VPH) *	**2,130**	**1,980**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

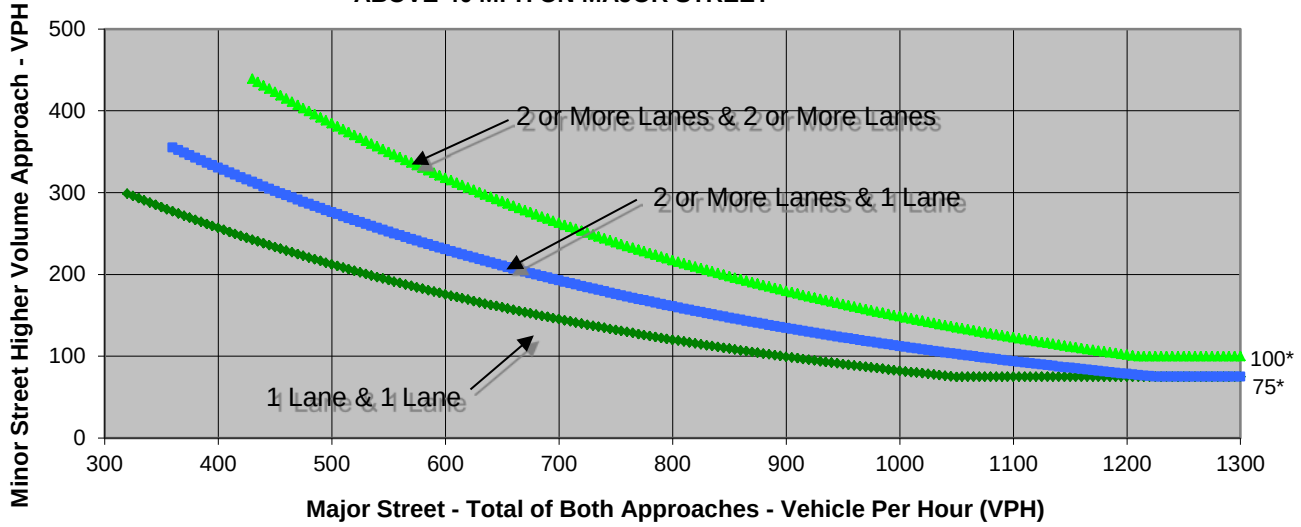
	NB	SB	EB	WB
Left	20	20	980	240
Through	760	440	300	310
Right	240	470	160	40
Total	1,020	930	1,440	590

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**5**	**YES**
Traffic Volume (VPH) *	**2,030**	**1,020**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

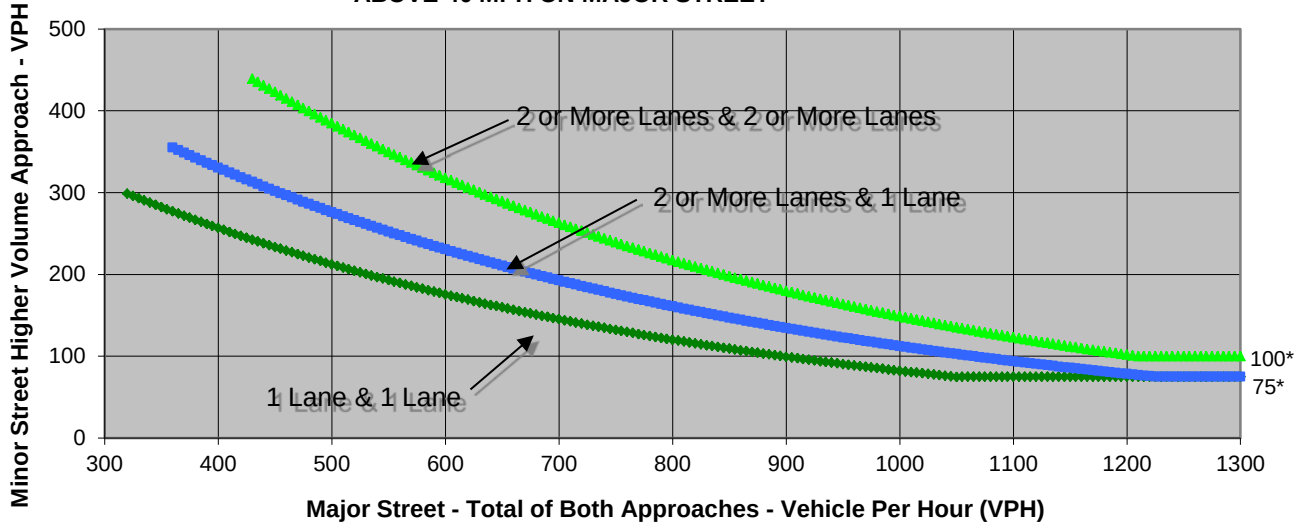
	NB	SB	EB	WB
Left	20	50	700	200
Through	570	850	460	400
Right	280	1,160	40	20
Total	870	2,060	1,200	620

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**5**	**YES**
Traffic Volume (VPH) *	**1,820**	**2,060**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

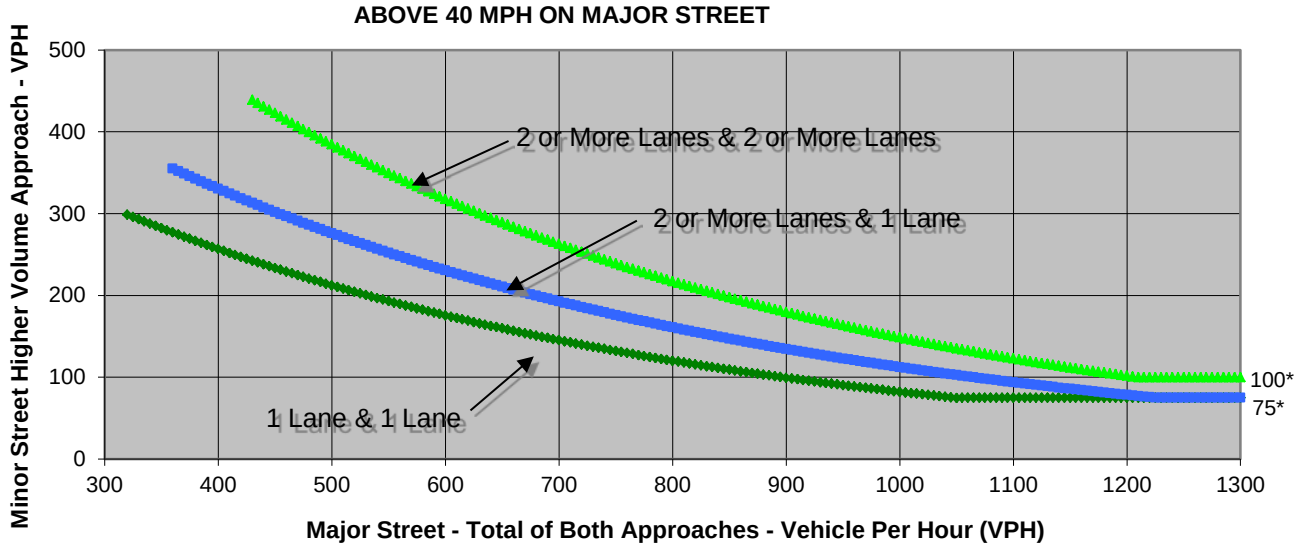
	NB	SB	EB	WB
Left	20	50	680	270
Through	360	490	390	430
Right	290	680	50	30
Total	670	1,220	1,120	730

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**3**	**YES**
Traffic Volume (VPH) *	**1,850**	**1,220**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

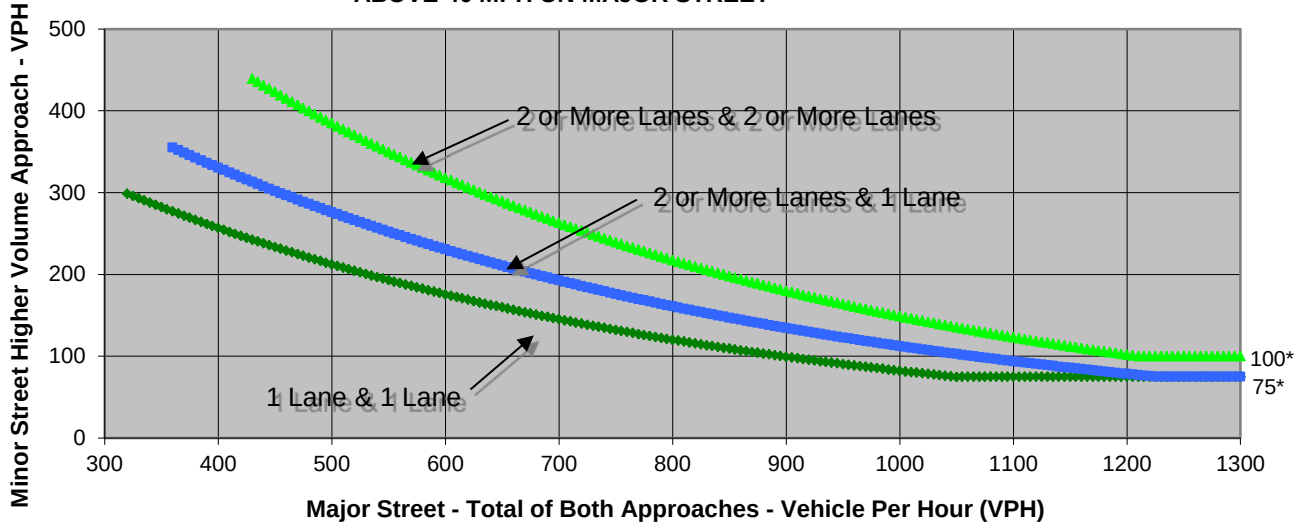
	NB	SB	EB	WB
Left	20	30	640	280
Through	340	340	640	520
Right	310	670	20	80
Total	670	1,040	1,300	880

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**3**	**YES**
Traffic Volume (VPH) *	**2,180**	**1,040**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

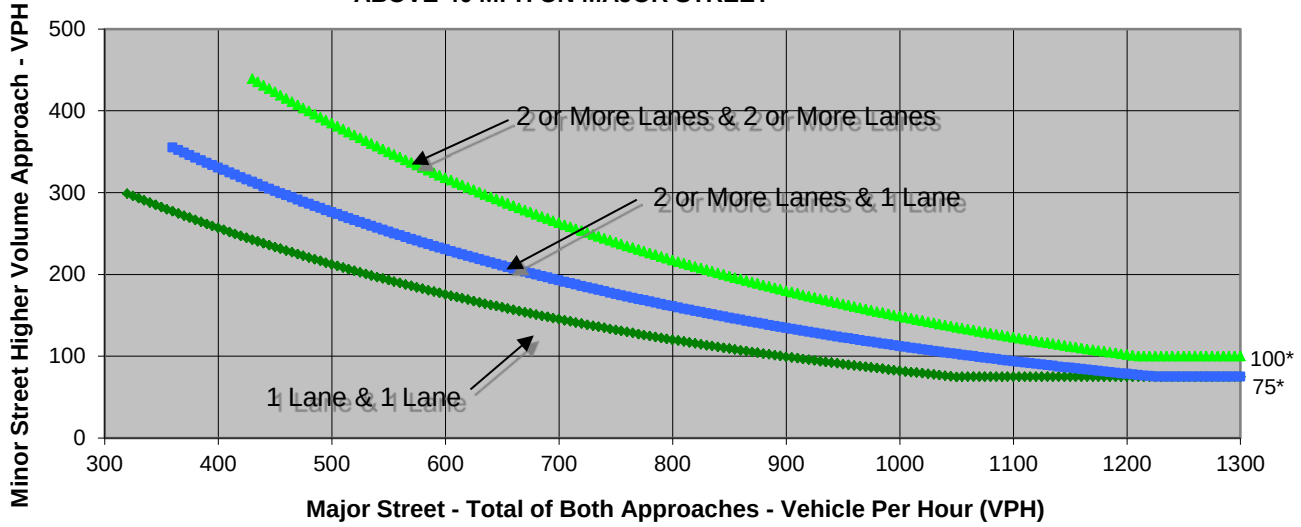
	NB	SB	EB	WB
Left	20	20	710	210
Through	430	550	230	270
Right	220	730	50	20
Total	670	1,300	990	500

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**3**	**YES**
Traffic Volume (VPH) *	**1,490**	**1,300**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	NCC
Minor Street	Albers Road

Turn Movement Volumes

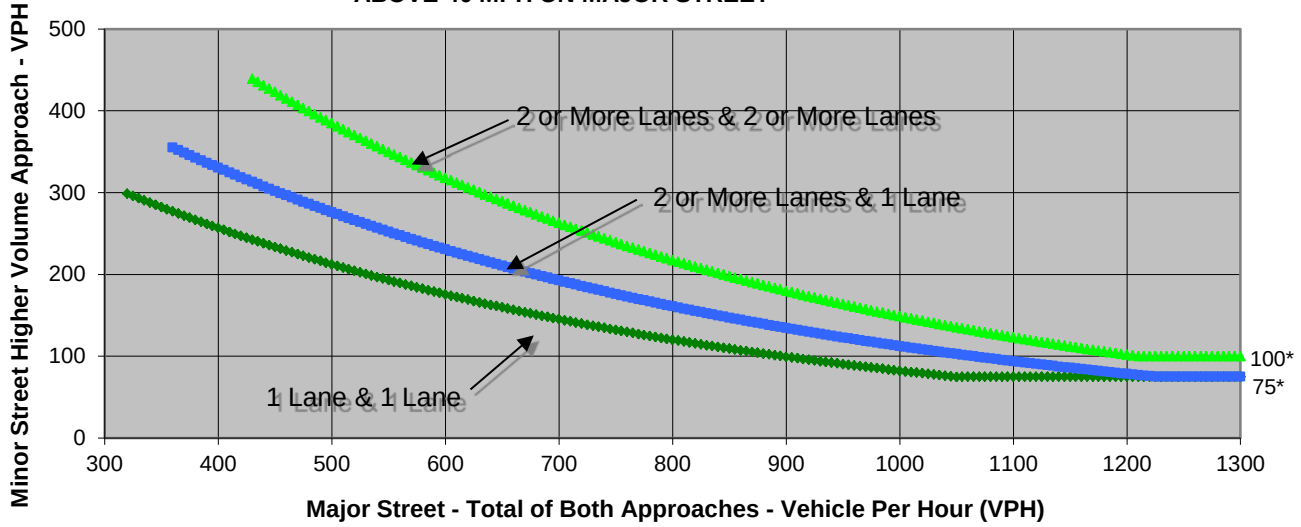
	NB	SB	EB	WB
Left	20	20	720	180
Through	440	350	400	340
Right	210	770	20	20
Total	670	1,140	1,140	540

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Albers Road	
Number of Approach Lanes	**5**	**3**	**YES**
Traffic Volume (VPH) *	**1,680**	**1,140**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC Corridor
Scenario	2042 No Project
Peak Hour	AM

Major Street	Claribel Road
Minor Street	Bentley Road

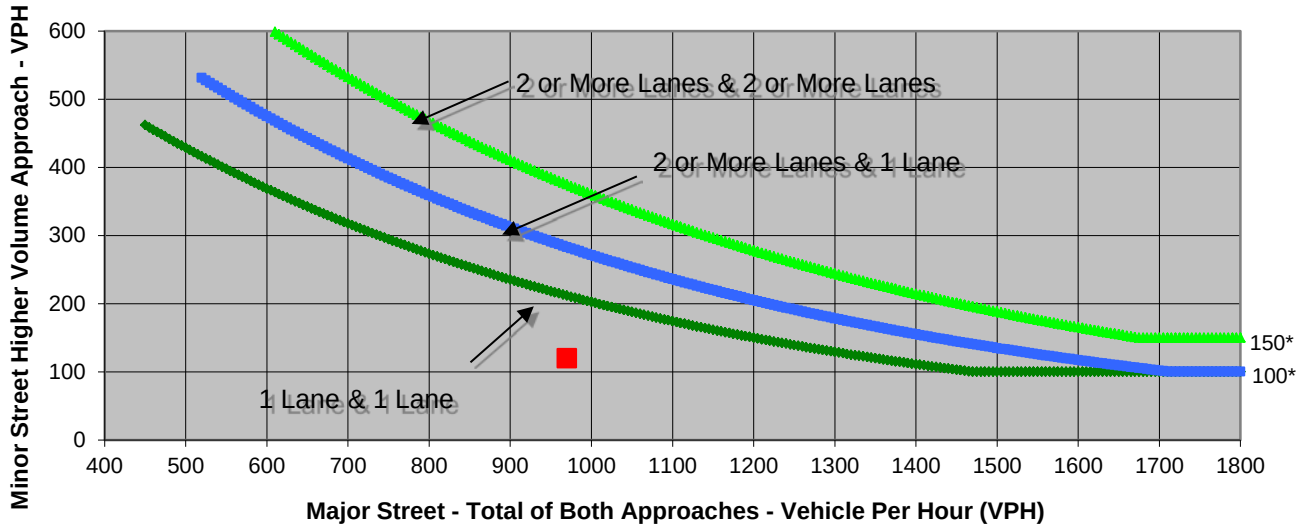
Turn Movement Volumes

	NB	SB	EB	WB
Left	30	50	100	30
Through	40	40	340	420
Right	30	30	30	50
Total	100	120	470	500

Major Street Direction

	North/South
x	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Bentley Road	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**970**	**120**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC Corridor
Scenario	2042 No Project
Peak Hour	PM

Major Street	Claribel Road
Minor Street	Bentley Road

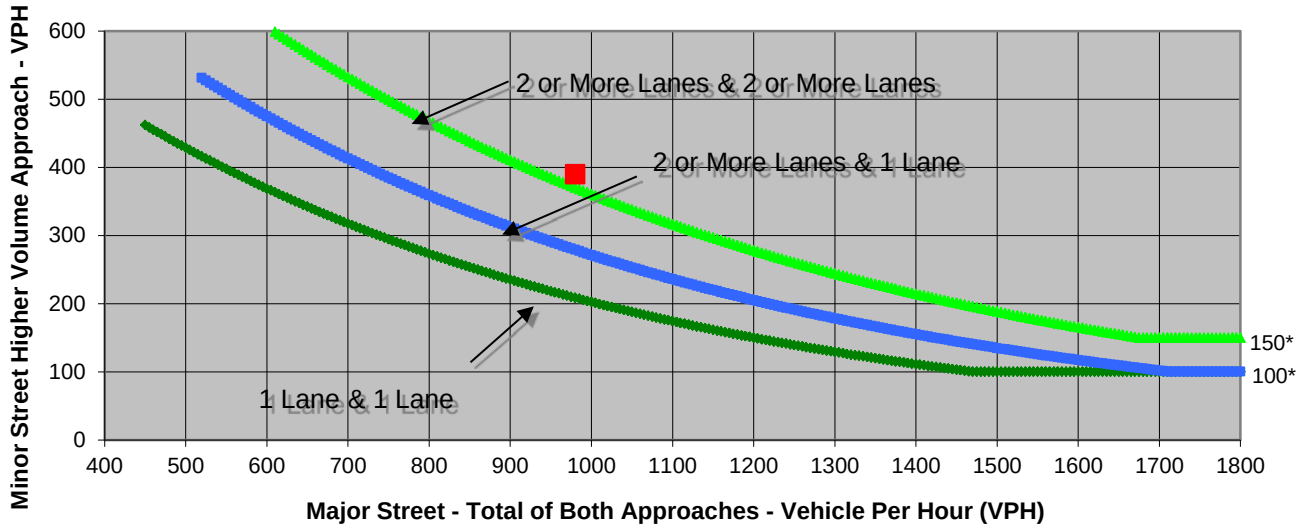
Turn Movement Volumes

	NB	SB	EB	WB
Left	30	80	90	30
Through	40	90	410	360
Right	30	220	30	60
Total	100	390	530	450

Major Street Direction

	North/South
x	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Bentley Road	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**980**	**390**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	NCC
Minor Street	Bentley Road

Turn Movement Volumes

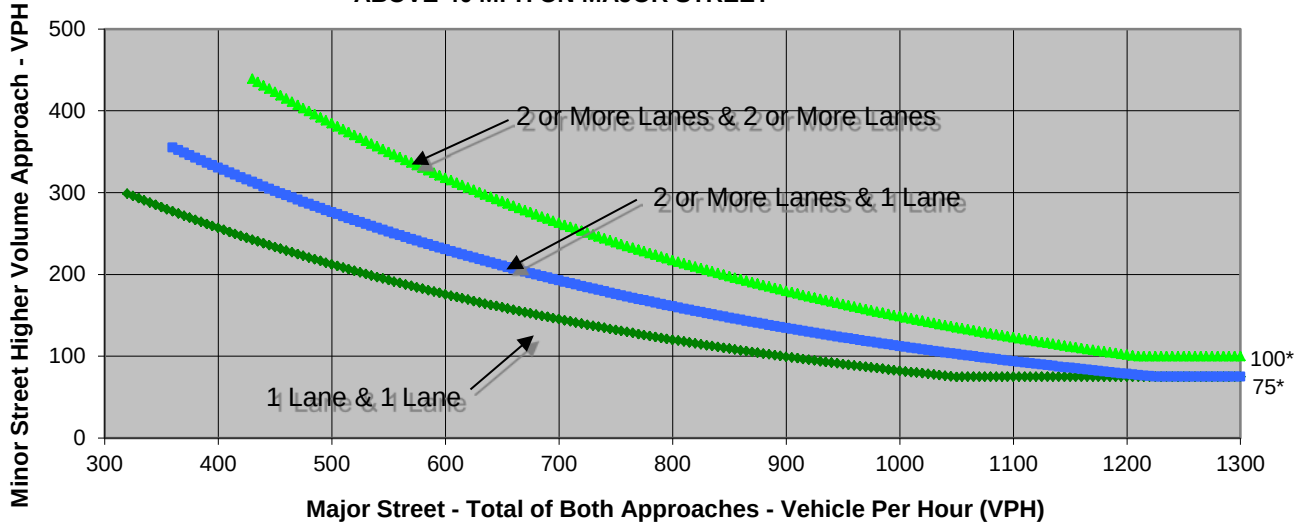
	NB	SB	EB	WB
Left	100	20	170	30
Through	80	100	1,050	1,080
Right	50	30	80	20
Total	230	150	1,300	1,130

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Bentley Road	
Number of Approach Lanes	**4**	**3**	**YES**
Traffic Volume (VPH) *	**2,430**	**230**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	NCC
Minor Street	Bentley Road

Turn Movement Volumes

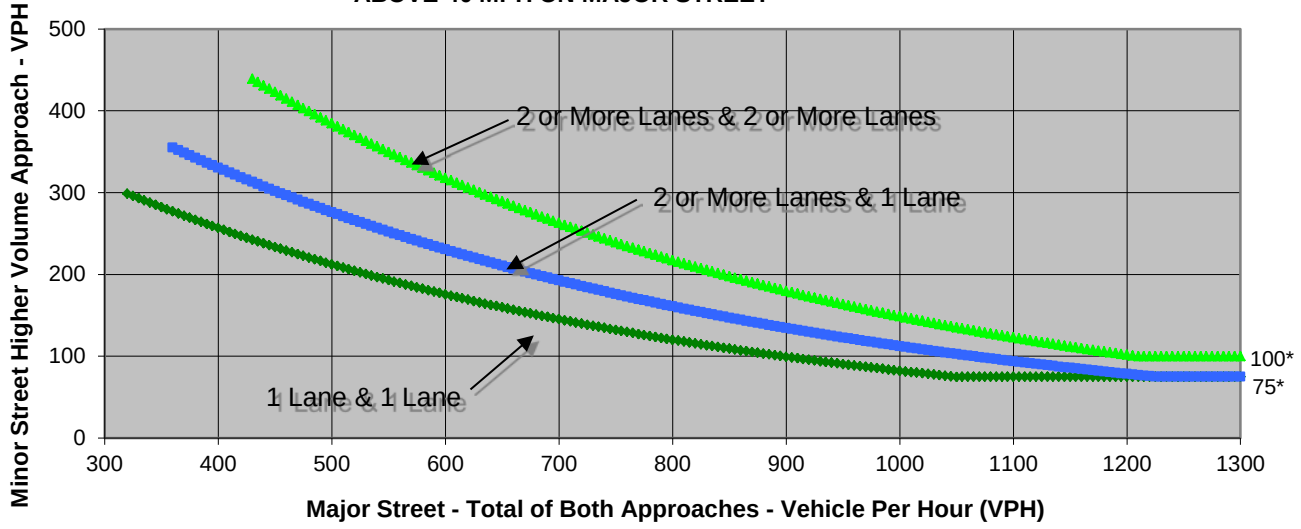
	NB	SB	EB	WB
Left	100	20	90	90
Through	110	150	1,210	1,100
Right	70	340	160	20
Total	280	510	1,460	1,210

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Bentley Road	
Number of Approach Lanes	**4**	**3**	**YES**
Traffic Volume (VPH) *	**2,670**	**510**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	NCC
Minor Street	Bentley Road

Turn Movement Volumes

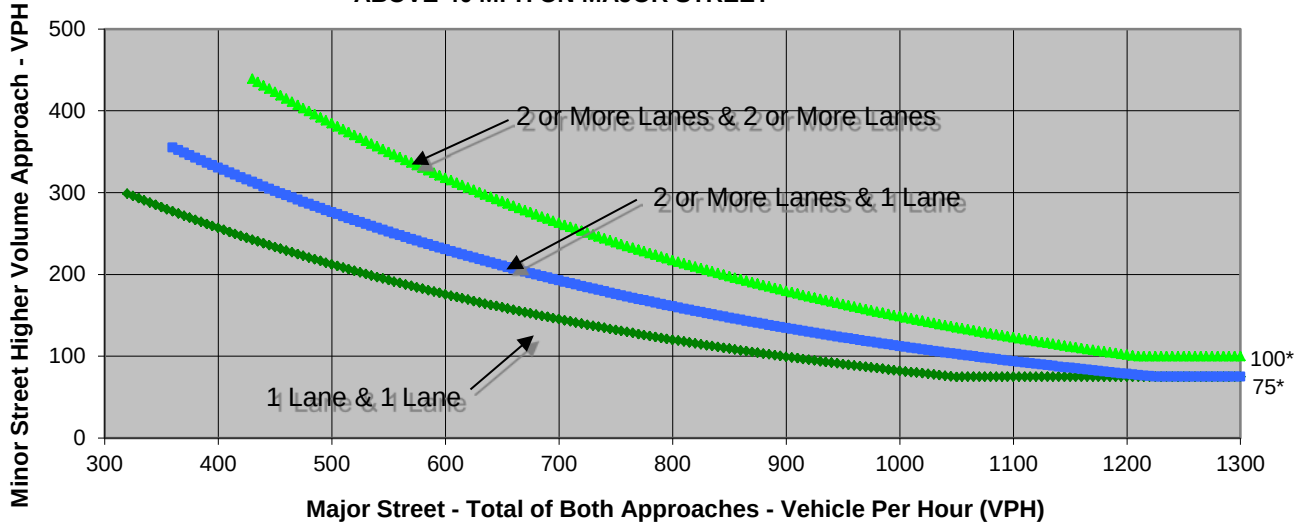
	NB	SB	EB	WB
Left	100	20	200	30
Through	80	100	920	970
Right	50	30	80	20
Total	230	150	1,200	1,020

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Bentley Road	
Number of Approach Lanes	**4**	**3**	**YES**
Traffic Volume (VPH) *	**2,220**	**230**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	NCC
Minor Street	Bentley Road

Turn Movement Volumes

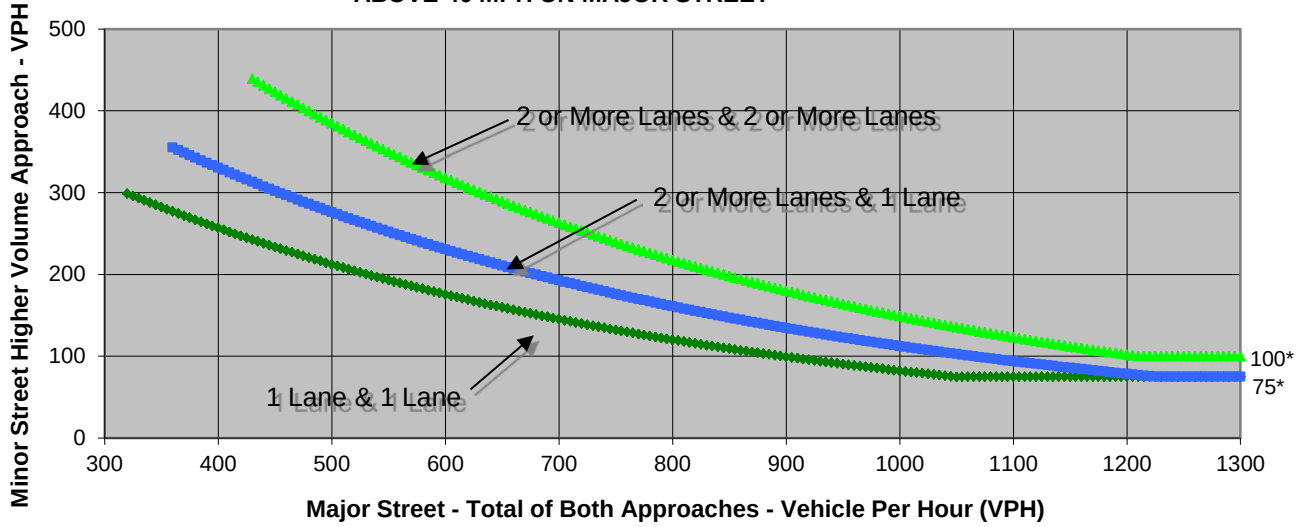
	NB	SB	EB	WB
Left	100	20	120	90
Through	110	150	1,050	1,020
Right	70	340	160	20
Total	280	510	1,330	1,130

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Bentley Road	
Number of Approach Lanes	**4**	**3**	**YES**
Traffic Volume (VPH) *	**2,460**	**510**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

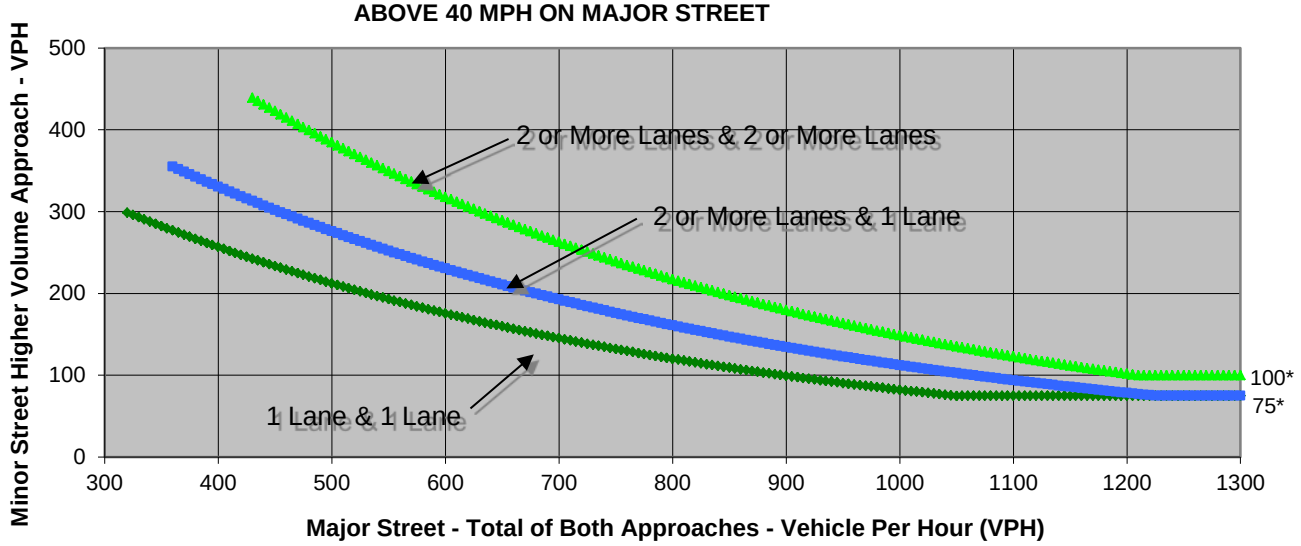
	NB	SB	EB	WB
Left	100	20	30	20
Through	580	800	10	10
Right	200	20	40	20
Total	880	840	80	50

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**NO**
Traffic Volume (VPH) *	**1,720**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

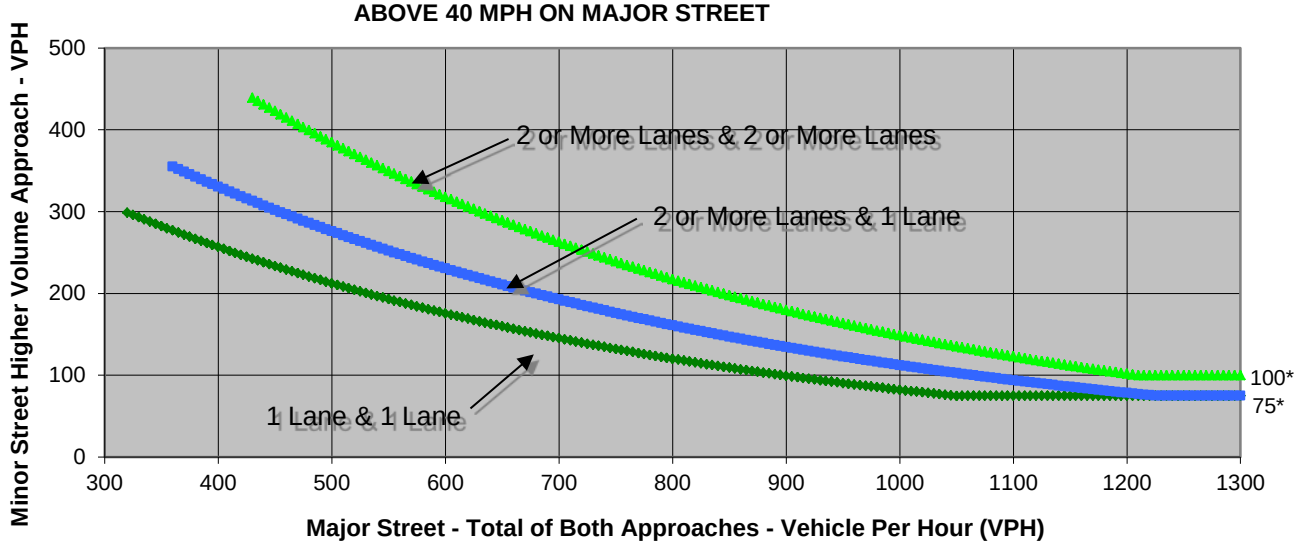
	NB	SB	EB	WB
Left	100	50	60	50
Through	990	740	10	10
Right	50	30	130	50
Total	1,140	820	200	110

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,960**	**200**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

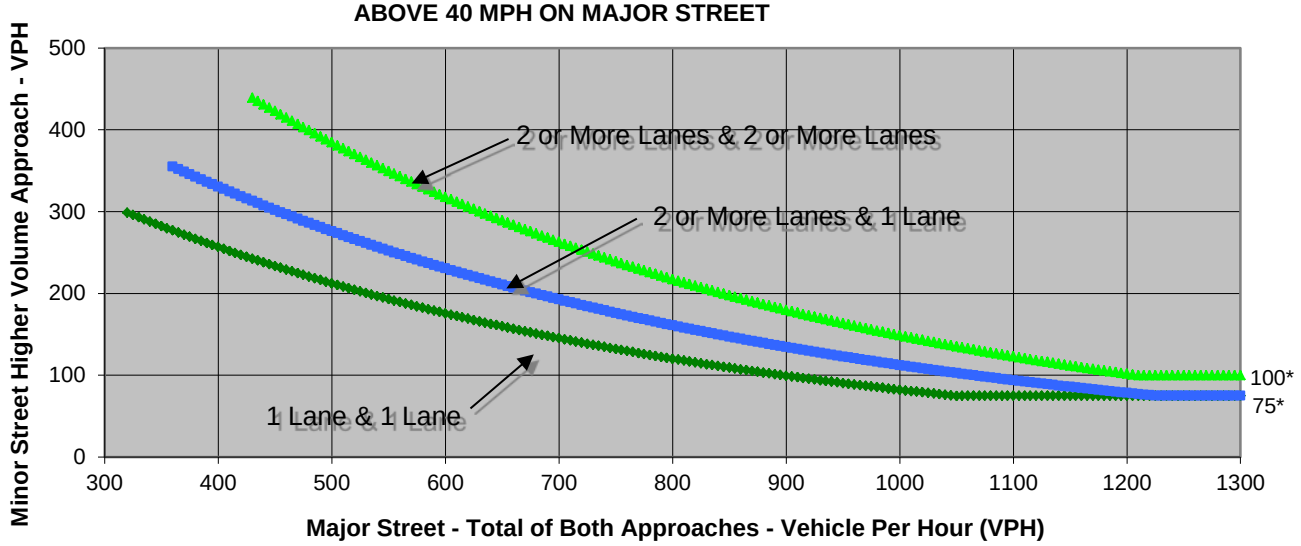
	NB	SB	EB	WB
Left	100	20	30	20
Through	580	820	10	10
Right	20	20	40	20
Total	700	860	80	50

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**NO**
Traffic Volume (VPH) *	**1,560**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

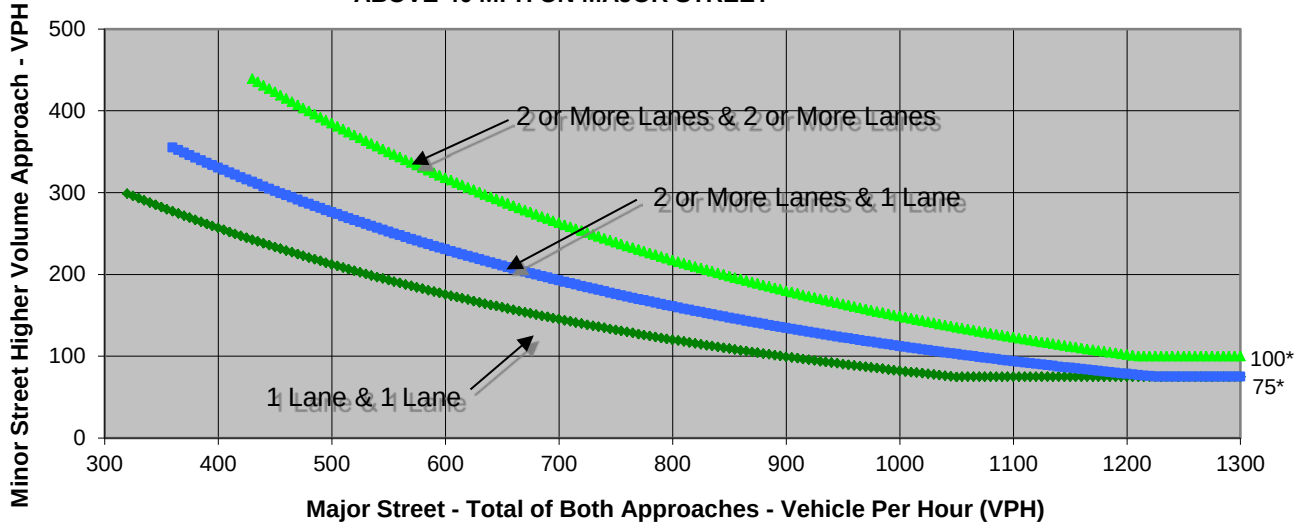
	NB	SB	EB	WB
Left	100	50	60	50
Through	1,000	760	10	10
Right	50	30	30	50
Total	1,150	840	100	110

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,990**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

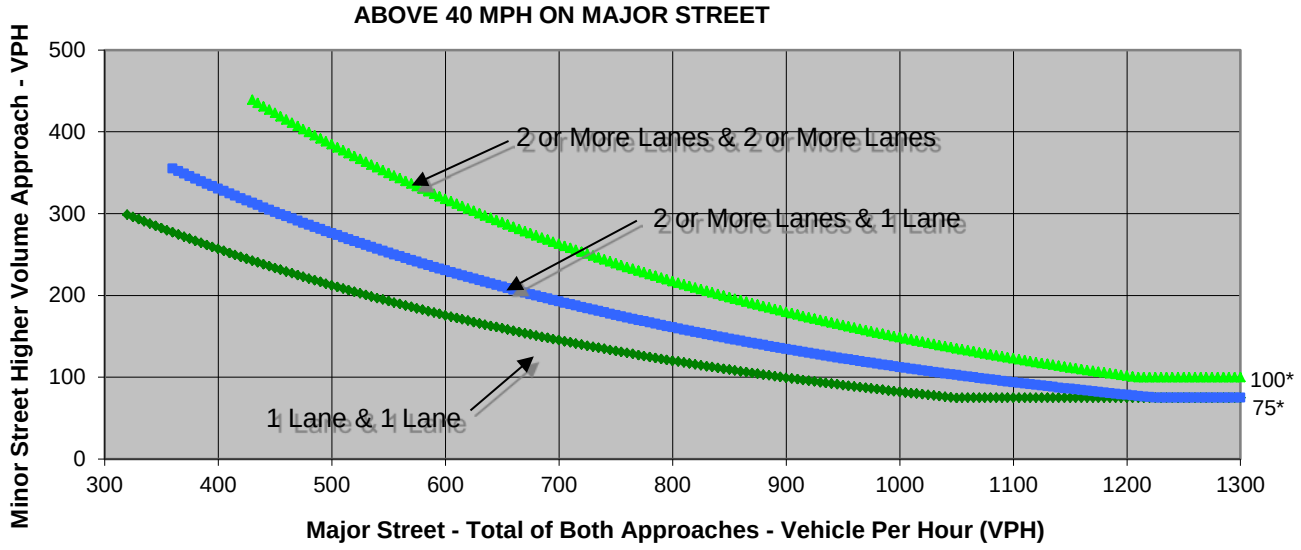
	NB	SB	EB	WB
Left	100	20	30	20
Through	620	800	10	10
Right	20	20	40	20
Total	740	840	80	50

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**NO**
Traffic Volume (VPH) *	**1,580**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

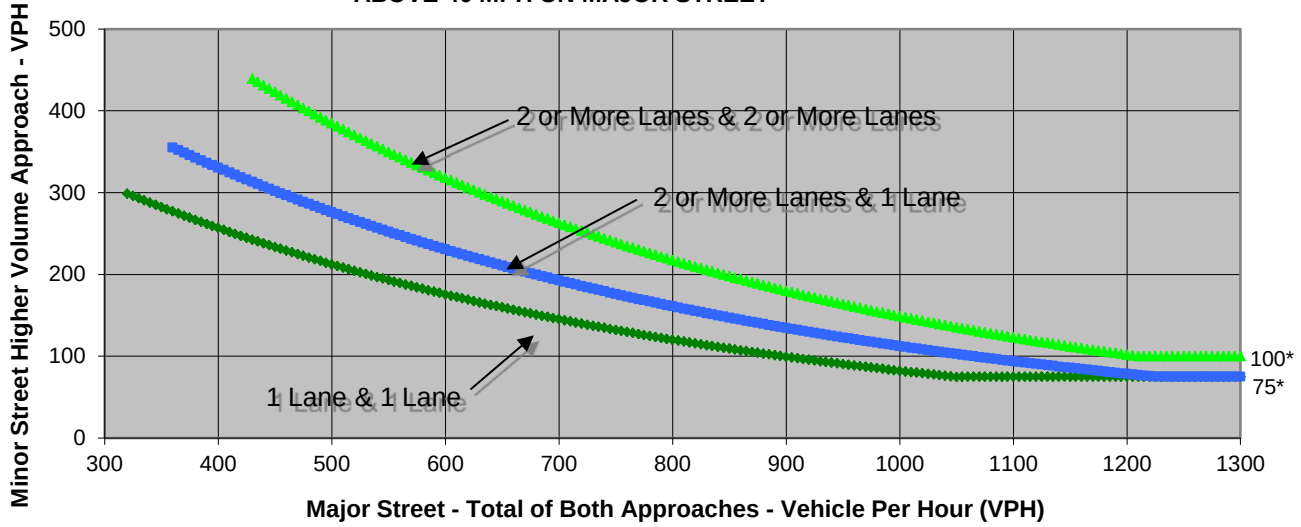
	NB	SB	EB	WB
Left	100	50	60	50
Through	950	720	10	10
Right	50	30	130	50
Total	1,100	800	200	110

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,900**	**200**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

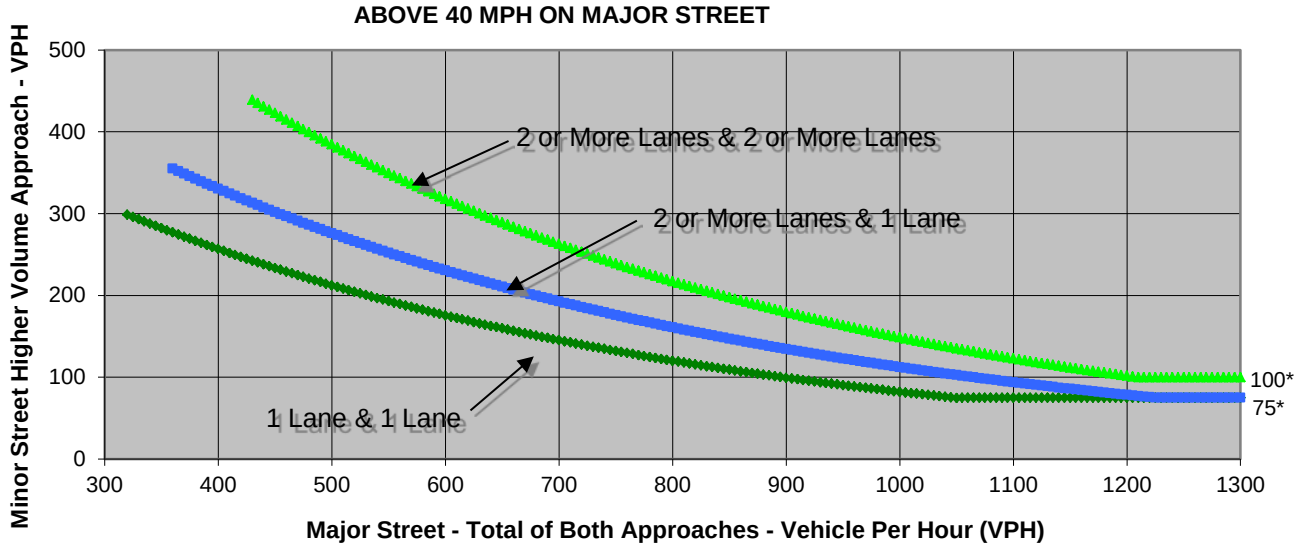
	NB	SB	EB	WB
Left	100	20	30	20
Through	620	800	10	10
Right	20	20	40	20
Total	740	840	80	50

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**NO**
Traffic Volume (VPH) *	**1,580**	**80**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Charity Way

Turn Movement Volumes

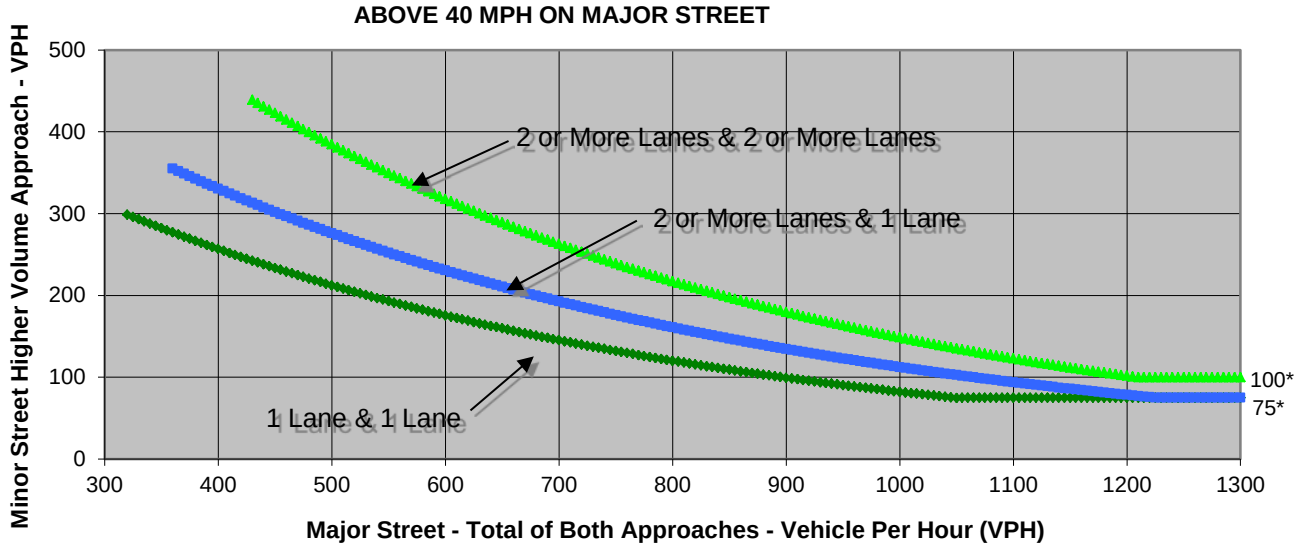
	NB	SB	EB	WB
Left	100	50	60	50
Through	950	720	10	10
Right	50	30	130	50
Total	1,100	800	200	110

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Charity Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,900**	**200**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 No Project
Peak Hour	AM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

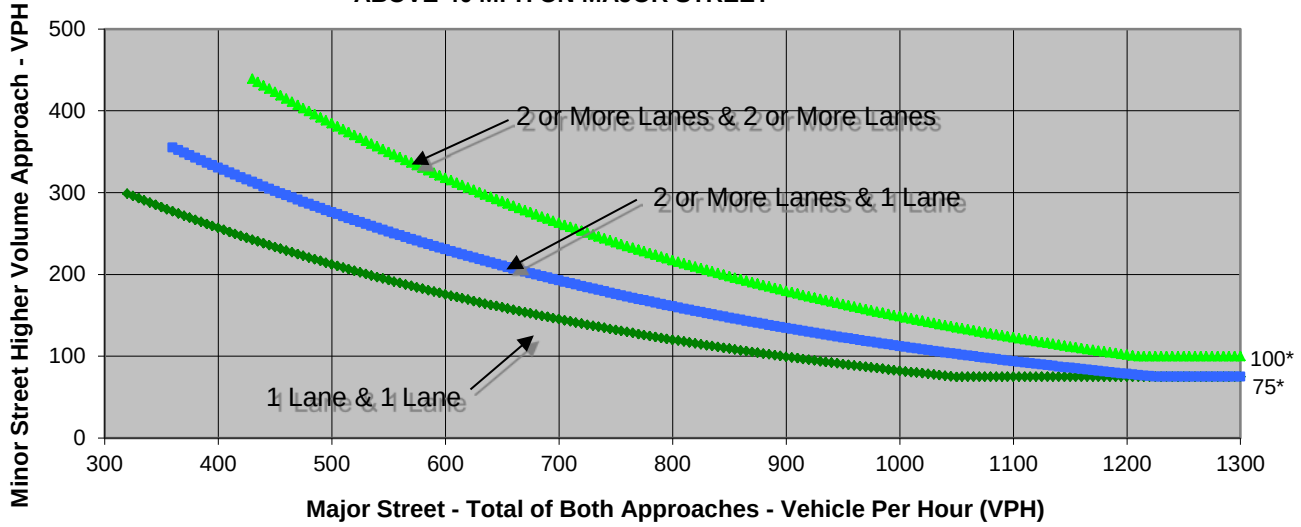
	NB	SB	EB	WB
Left	800	30	170	30
Through	380	670	450	850
Right	40	450	300	30
Total	1,220	1,150	920	910

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**2,370**	**920**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 No Project
Peak Hour	PM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

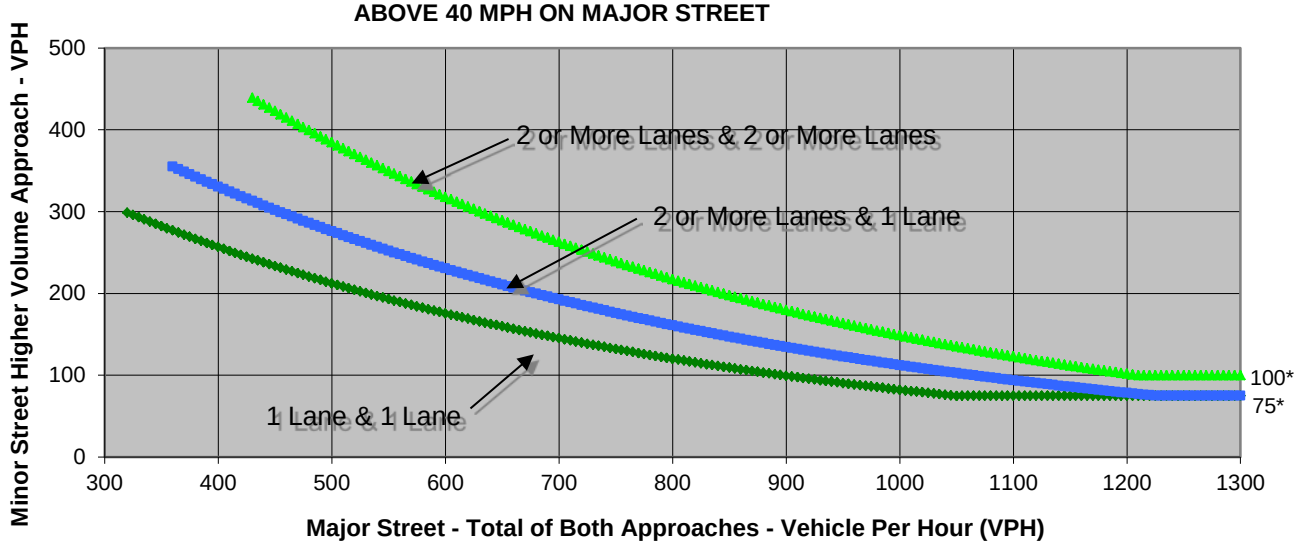
	NB	SB	EB	WB
Left	610	70	310	60
Through	790	660	1,310	780
Right	100	230	960	60
Total	1,500	960	2,580	900

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**2,460**	**2,580**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

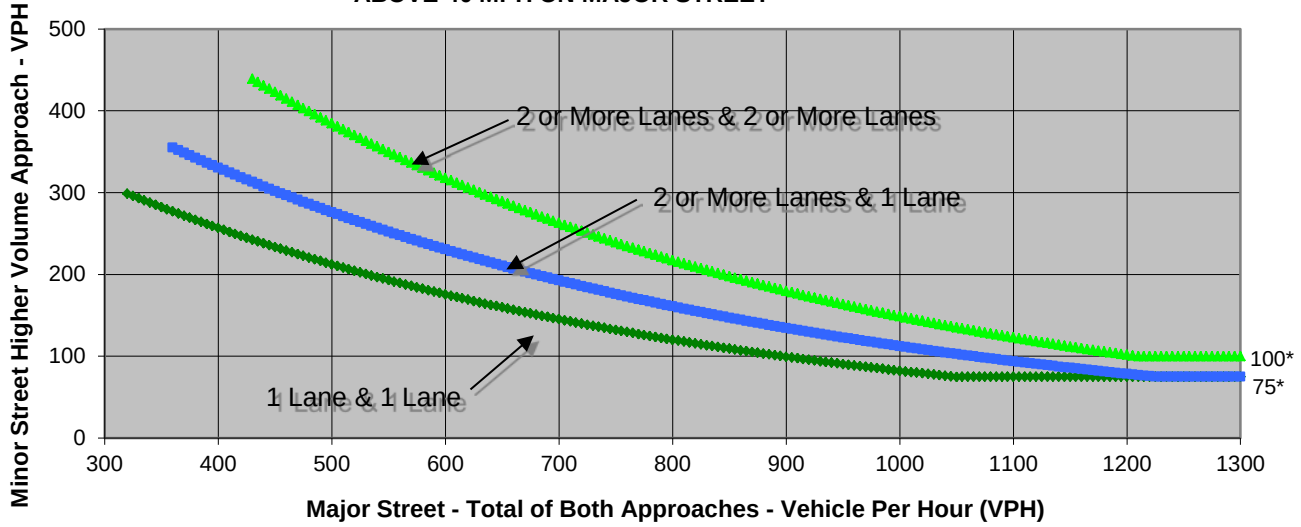
	NB	SB	EB	WB
Left	850	30	390	30
Through	360	580	270	470
Right	40	490	300	30
Total	1,250	1,100	960	530

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**2,350**	**960**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

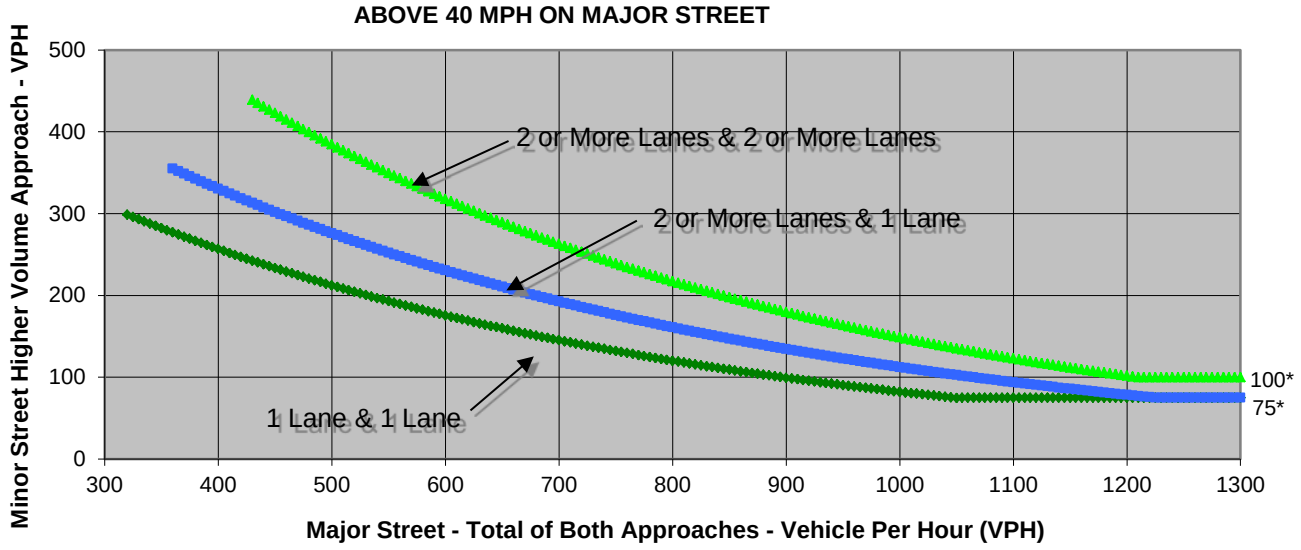
	NB	SB	EB	WB
Left	590	30	390	60
Through	710	640	270	500
Right	100	290	300	40
Total	1,400	960	960	600

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**2,360**	**960**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

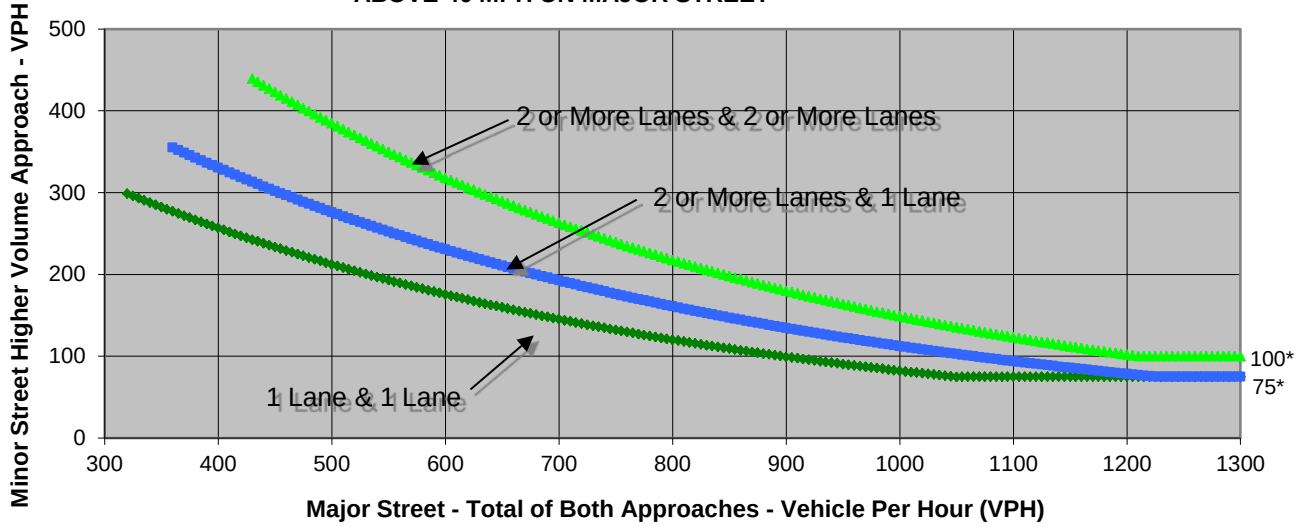
	NB	SB	EB	WB
Left	850	30	390	30
Through	360	580	270	470
Right	40	490	300	30
Total	1,250	1,100	960	530

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**1,490**	**1,250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

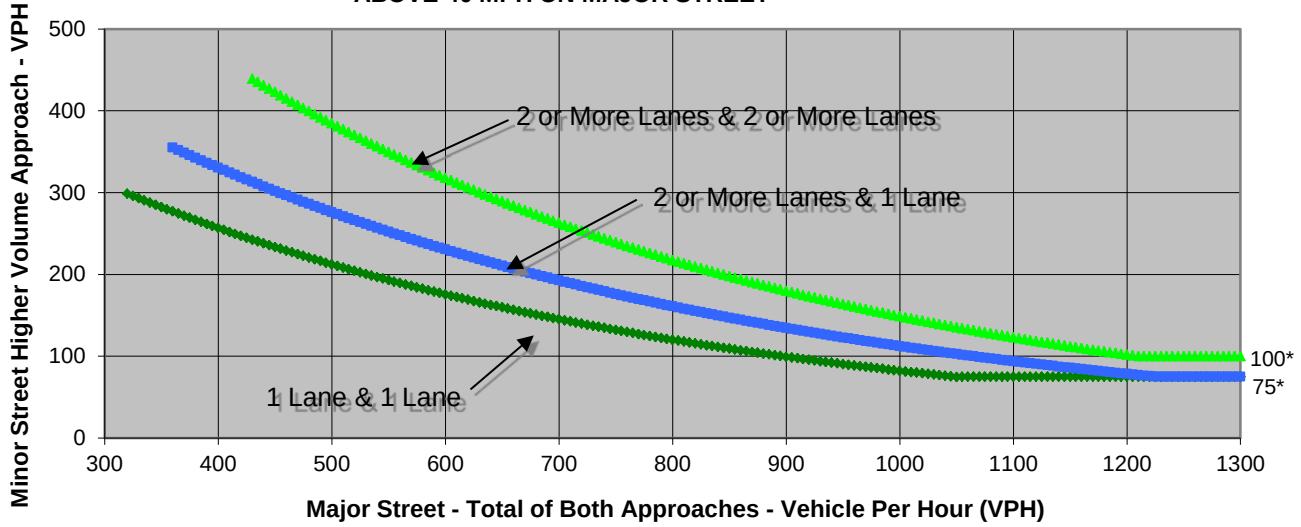
	NB	SB	EB	WB
Left	590	30	350	60
Through	710	640	800	500
Right	100	290	1,080	40
Total	1,400	960	2,230	600

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**2,830**	**1,400**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

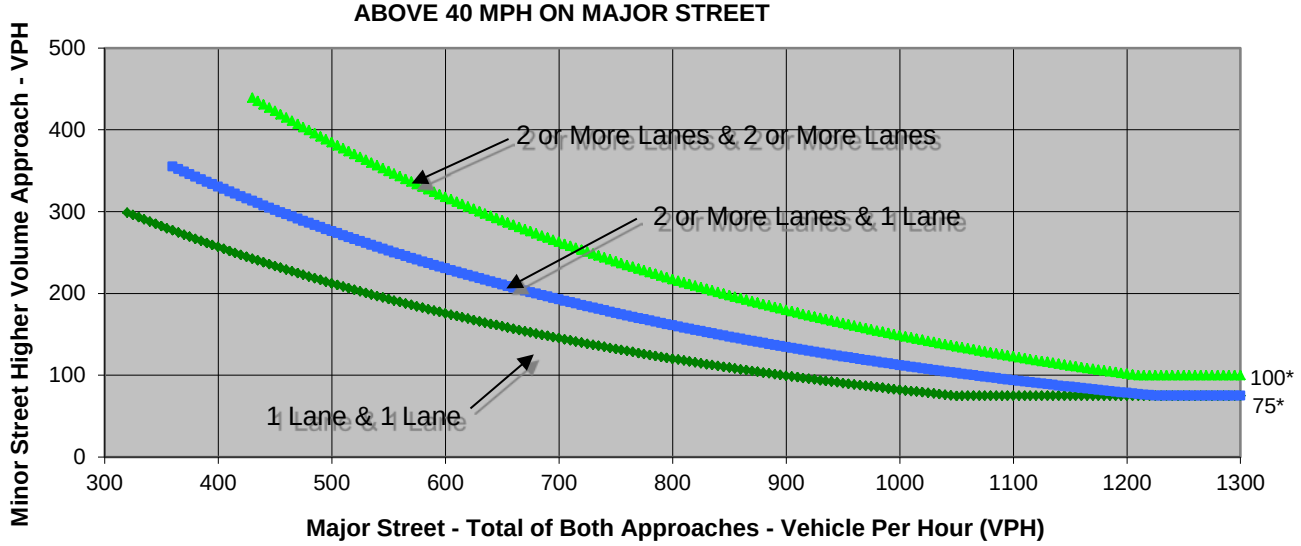
	NB	SB	EB	WB
Left	870	30	400	30
Through	350	550	280	550
Right	40	520	300	30
Total	1,260	1,100	980	610

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**2,360**	**980**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

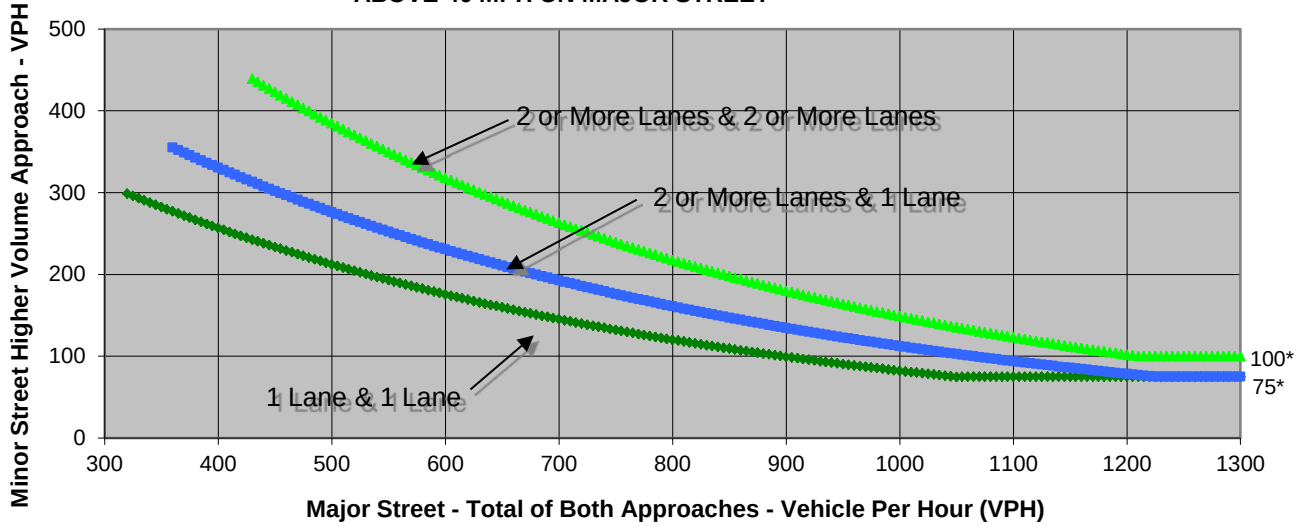
	NB	SB	EB	WB
Left	610	40	430	60
Through	720	660	780	550
Right	100	300	1,030	40
Total	1,430	1,000	2,240	650

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**2,430**	**2,240**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

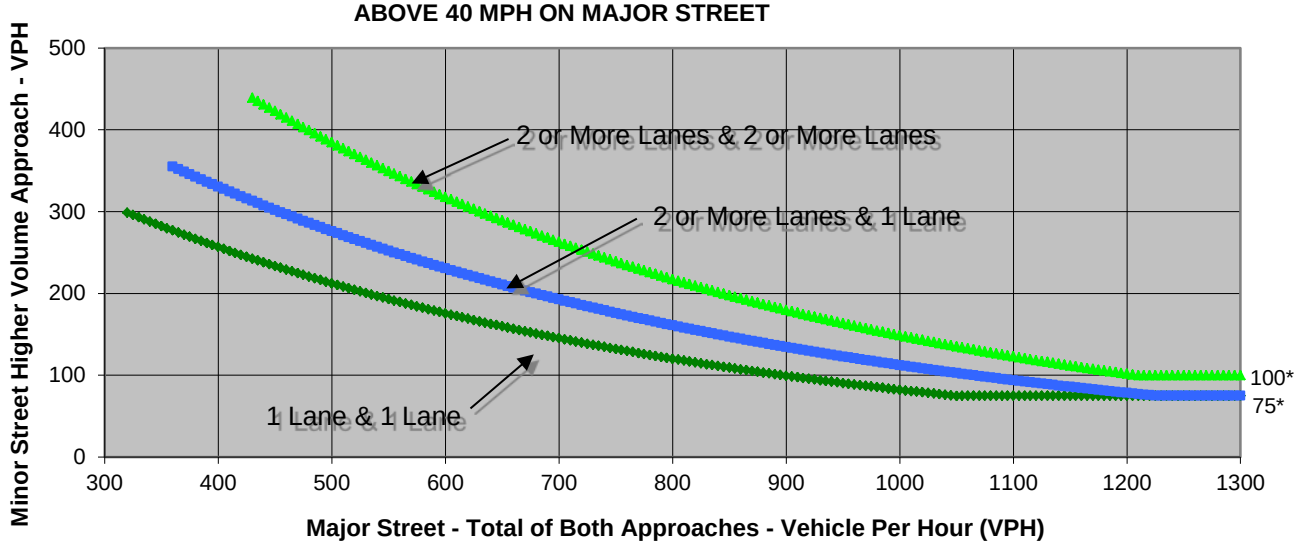
	NB	SB	EB	WB
Left	870	30	400	30
Through	380	550	280	550
Right	40	520	300	30
Total	1,290	1,100	980	610

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**2,390**	**980**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	Claratina Avenue
Minor Street	Oakdale Road

Turn Movement Volumes

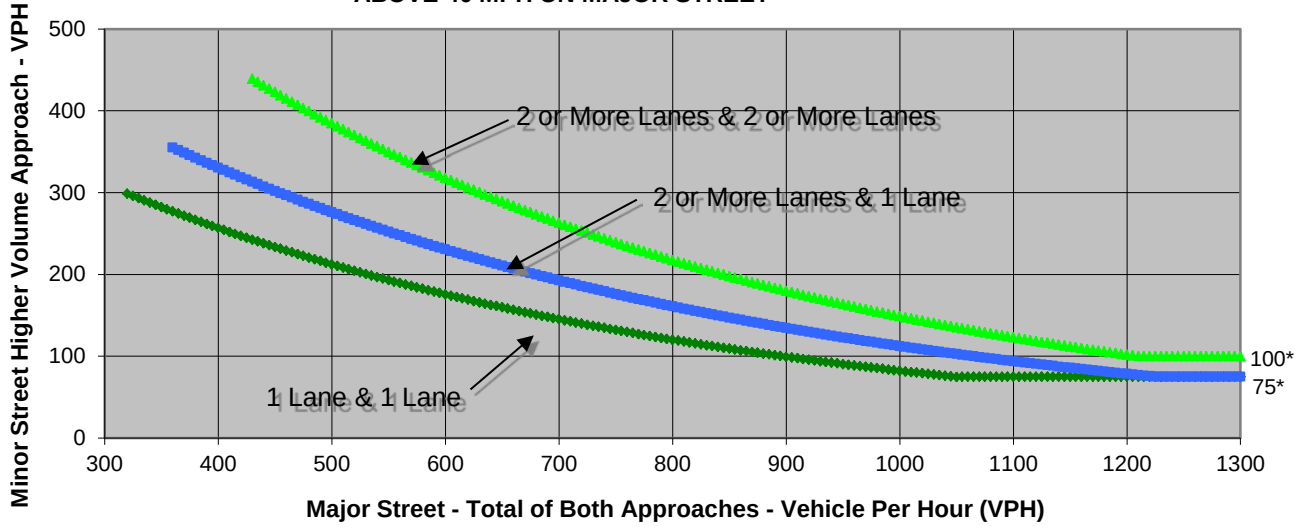
	NB	SB	EB	WB
Left	610	40	430	60
Through	720	660	780	550
Right	100	300	1,030	40
Total	1,430	1,000	2,240	650

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claratina Avenue	Oakdale Road	
Number of Approach Lanes	**5**	**4**	**YES**
Traffic Volume (VPH) *	**2,430**	**2,240**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

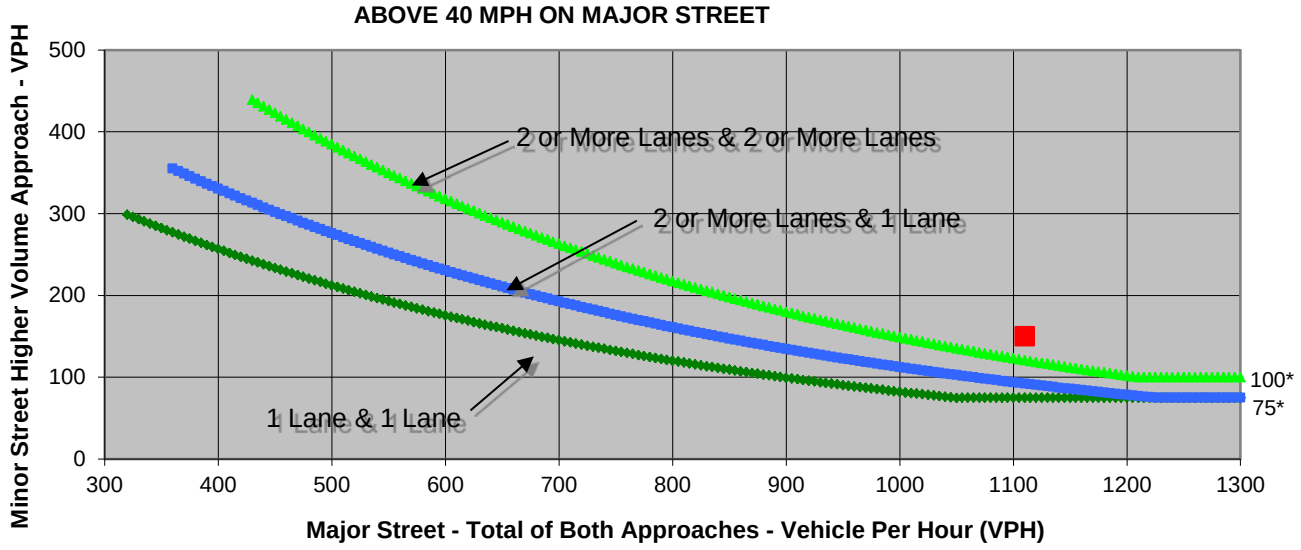
	NB	SB	EB	WB
Left	40	40	40	120
Through	280	470	10	10
Right	230	50	80	20
Total	550	560	130	150

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,110**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

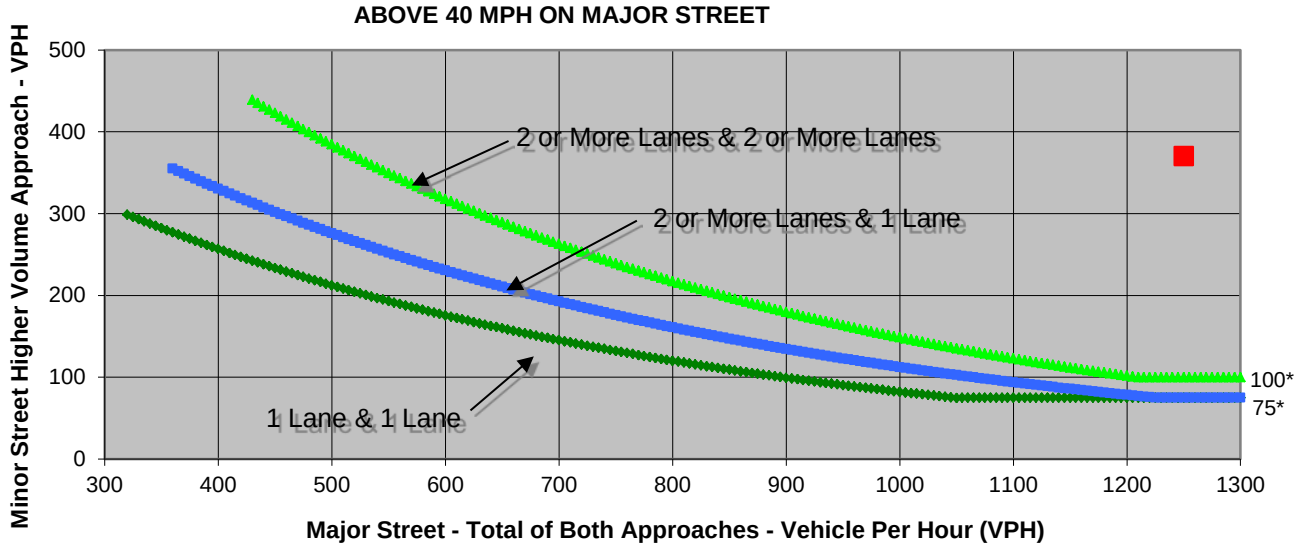
	NB	SB	EB	WB
Left	90	50	130	310
Through	480	400	10	10
Right	160	70	90	50
Total	730	520	230	370

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,250**	**370**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

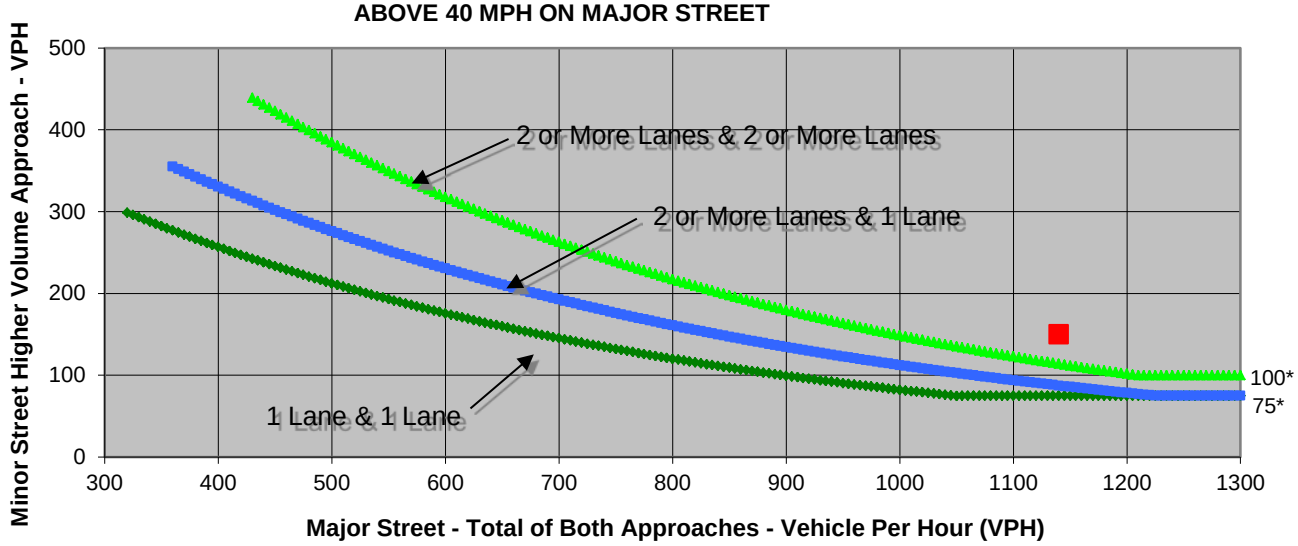
	NB	SB	EB	WB
Left	40	40	40	120
Through	300	480	10	10
Right	230	50	80	20
Total	570	570	130	150

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,140**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

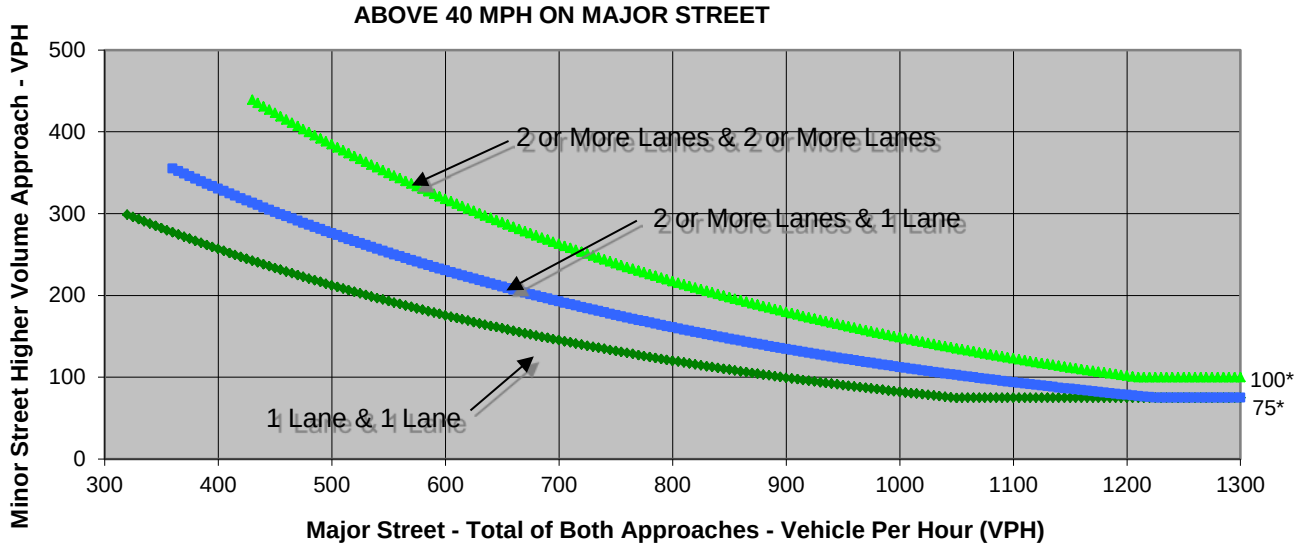
	NB	SB	EB	WB
Left	70	50	130	310
Through	520	420	10	10
Right	160	90	90	50
Total	750	560	230	370

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,310**	**370**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

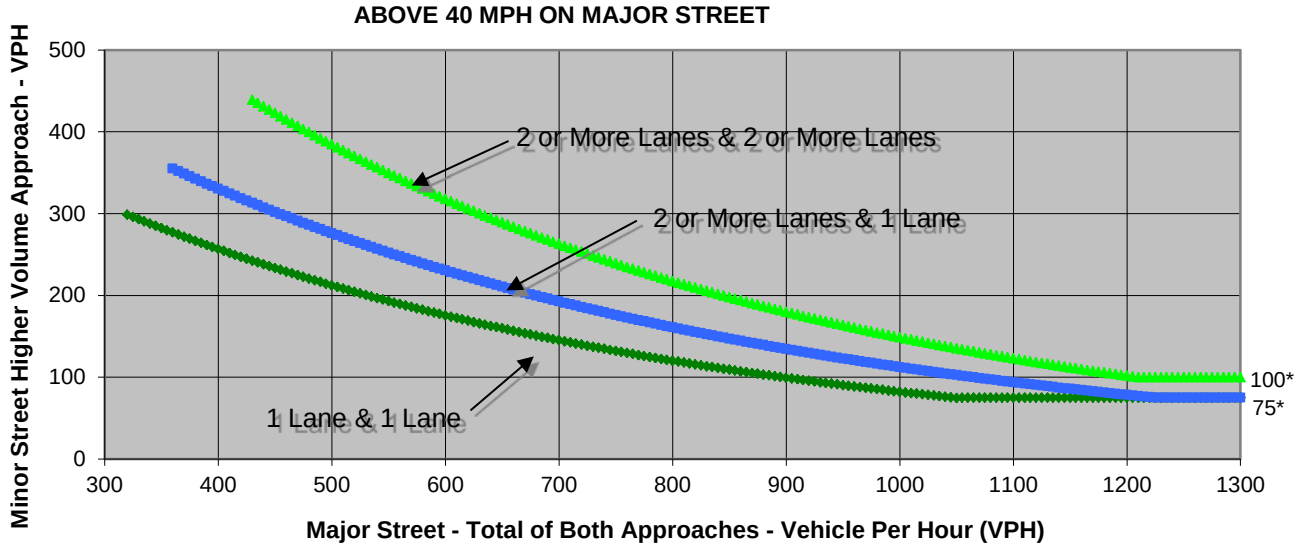
	NB	SB	EB	WB
Left	30	40	70	120
Through	490	620	10	10
Right	230	120	40	20
Total	750	780	120	150

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,530**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

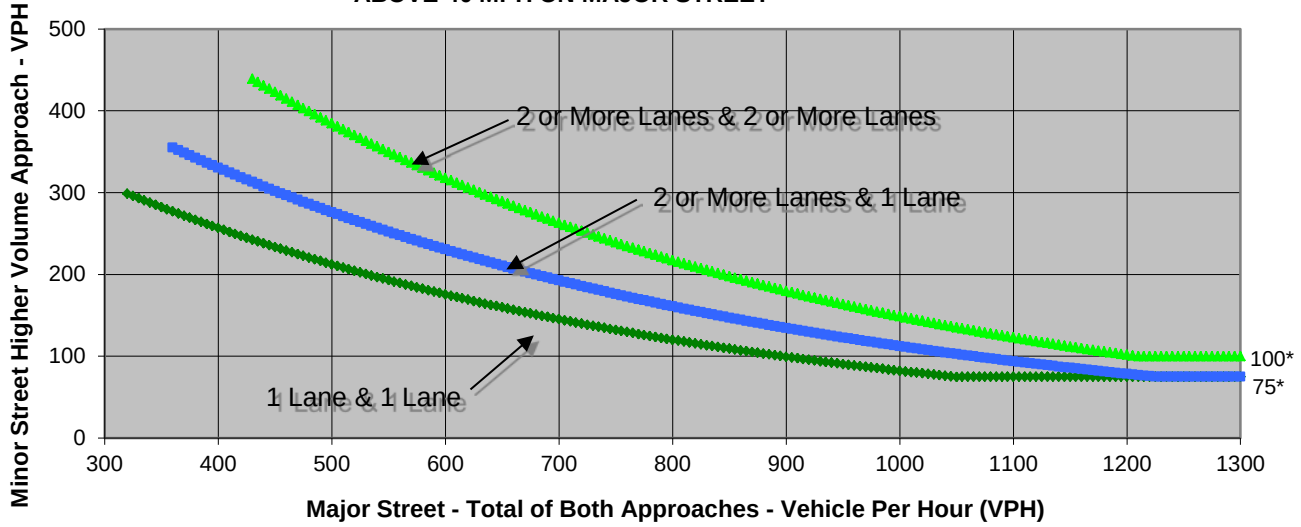
	NB	SB	EB	WB
Left	30	50	100	310
Through	610	480	10	10
Right	160	220	110	50
Total	800	750	220	370

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,550**	**370**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

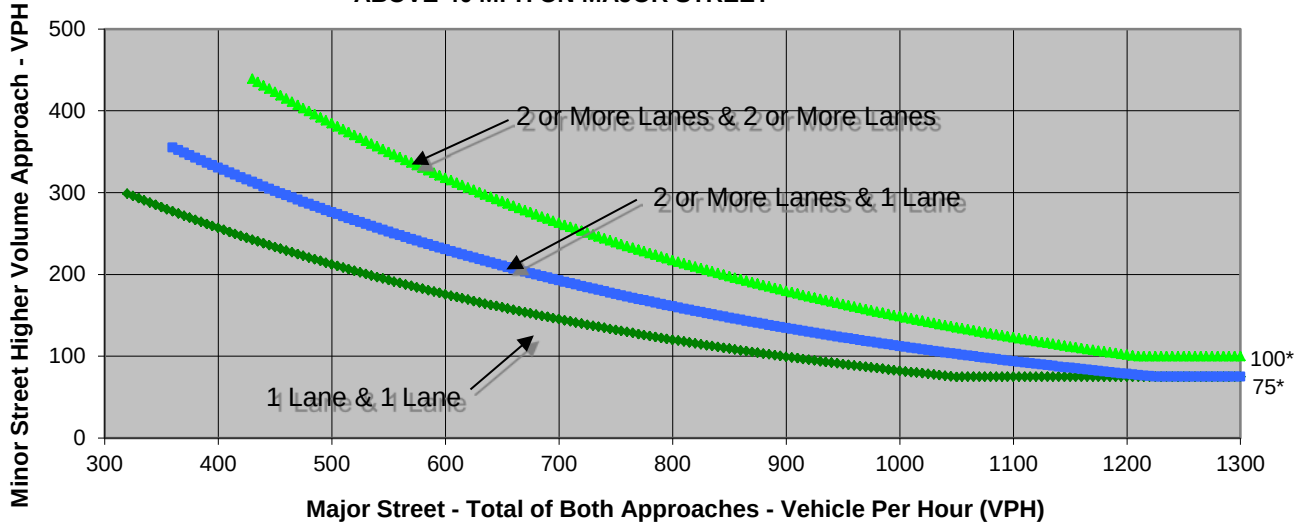
	NB	SB	EB	WB
Left	30	40	70	120
Through	520	640	10	10
Right	230	120	60	20
Total	780	800	140	150

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,580**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	Claus Road
Minor Street	Claribel Realigned (N)

Turn Movement Volumes

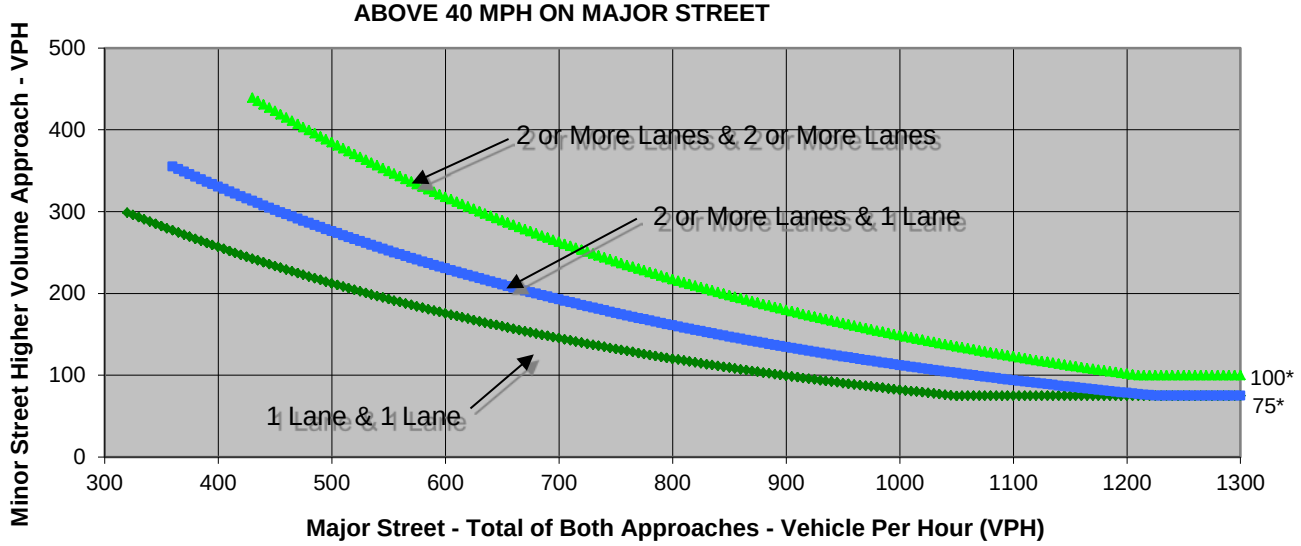
	NB	SB	EB	WB
Left	30	50	100	310
Through	660	500	10	10
Right	160	220	110	50
Total	850	770	220	370

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	Claribel Realigned (N)	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,620**	**370**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Claribel Realigned (N)
Minor Street	Davis

Turn Movement Volumes

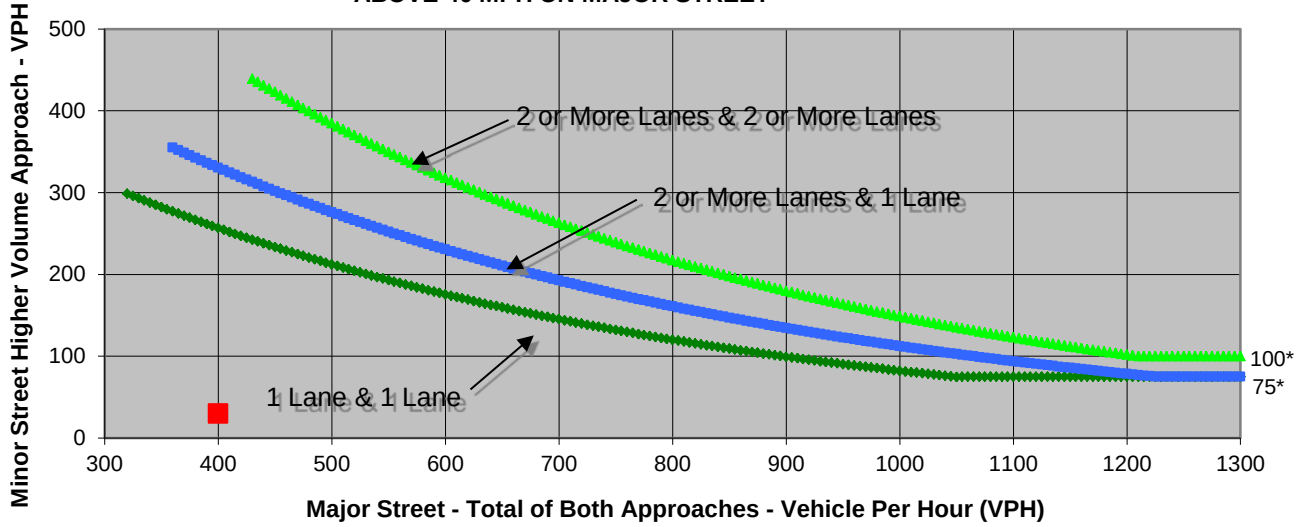
	NB	SB	EB	WB
Left	10	10	10	10
Through	210	150	10	10
Right	10	10	10	10
Total	230	170	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**400**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Claribel Realigned (N)
Minor Street	Davis

Turn Movement Volumes

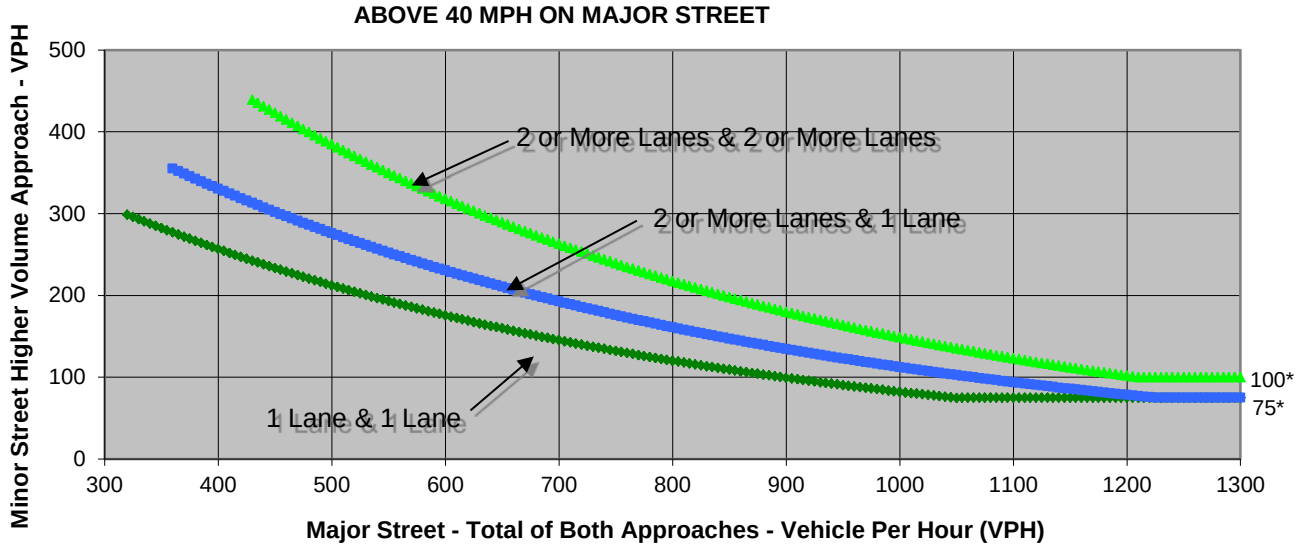
	NB	SB	EB	WB
Left	10	10	10	10
Through	110	80	10	10
Right	10	10	10	10
Total	130	100	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**230**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Claribel Realigned (N)
Minor Street	Davis

Turn Movement Volumes

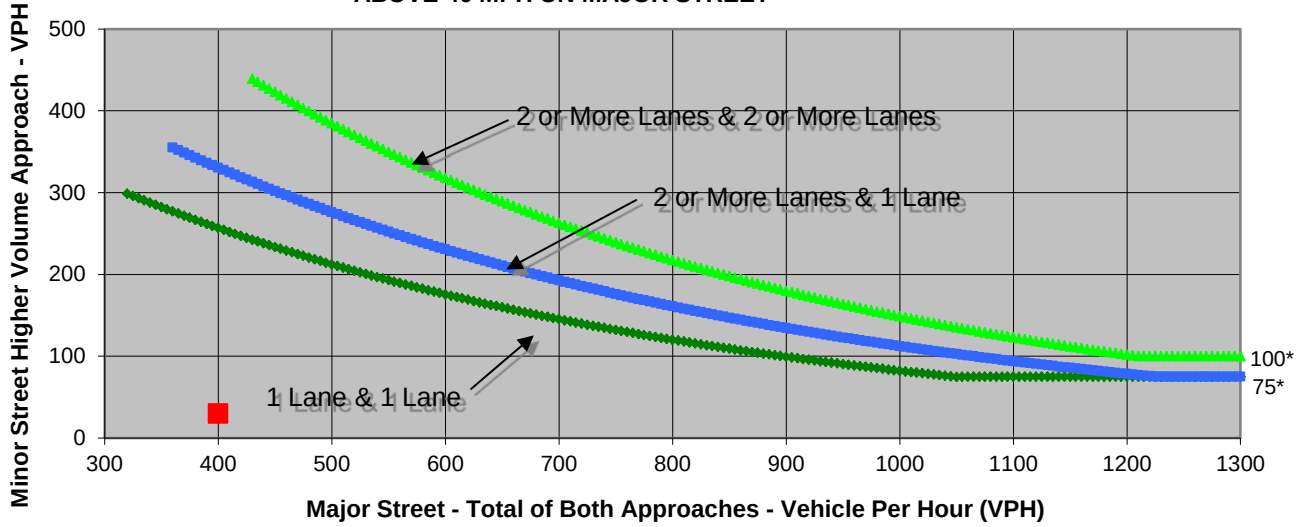
	NB	SB	EB	WB
Left	10	10	10	10
Through	210	150	10	10
Right	10	10	10	10
Total	230	170	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**400**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Claribel Realigned (N)
Minor Street	Davis

Turn Movement Volumes

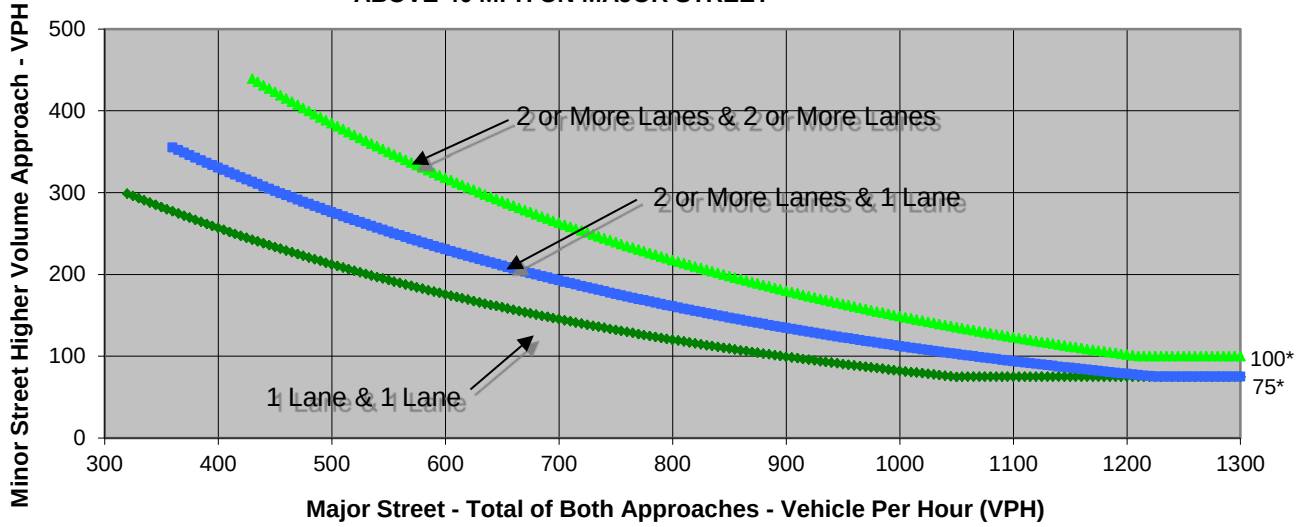
	NB	SB	EB	WB
Left	10	10	10	10
Through	100	140	10	10
Right	10	10	10	10
Total	120	160	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**280**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	Claribel Realigned (N)
Minor Street	Davis

Turn Movement Volumes

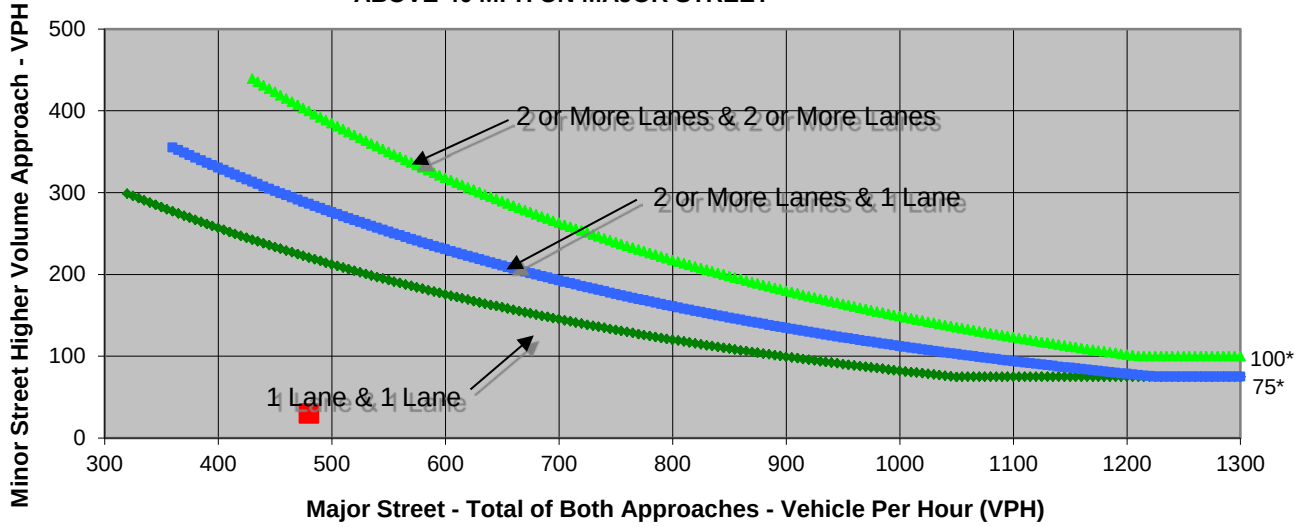
	NB	SB	EB	WB
Left	10	10	10	10
Through	200	240	10	10
Right	10	10	10	10
Total	220	260	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**480**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	Claribel Realigned (N)
Minor Street	Davis

Turn Movement Volumes

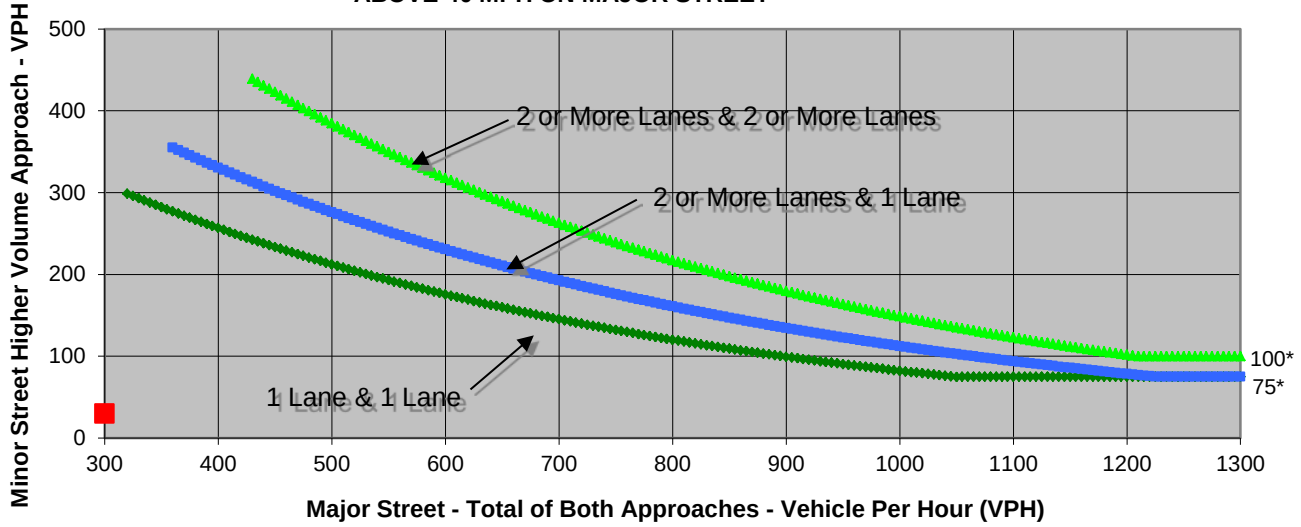
	NB	SB	EB	WB
Left	10	10	10	10
Through	120	140	10	10
Right	10	10	10	10
Total	140	160	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**300**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	Claribel Realigned (N)
Minor Street	Davis

Turn Movement Volumes

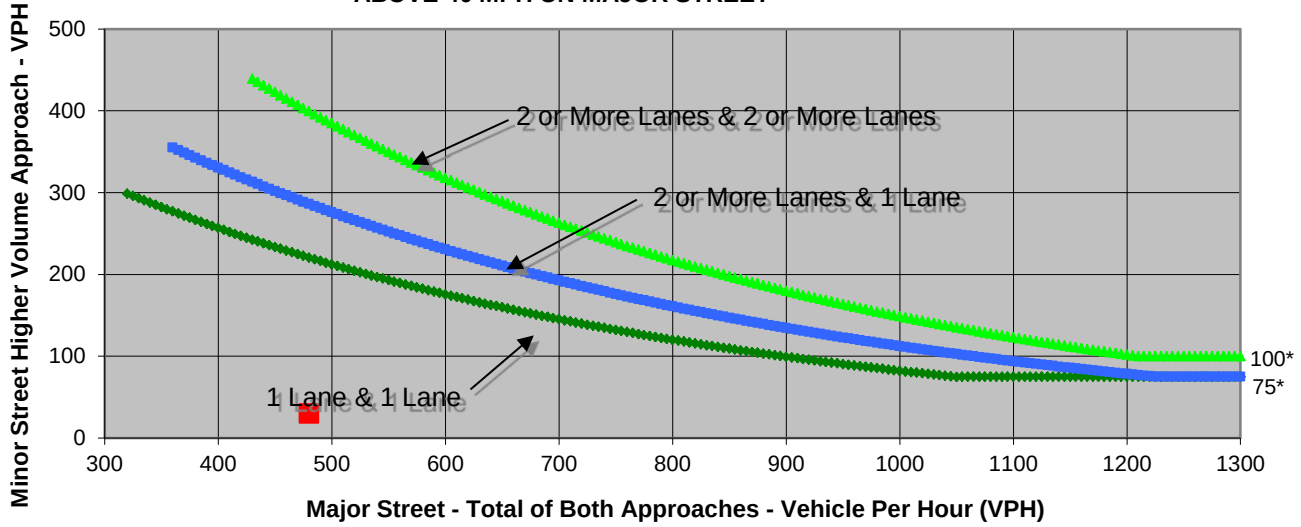
	NB	SB	EB	WB
Left	10	10	10	10
Through	200	240	10	10
Right	10	10	10	10
Total	220	260	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	Davis	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**480**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Claribel Realigned (N)
Minor Street	New Access Road

Turn Movement Volumes

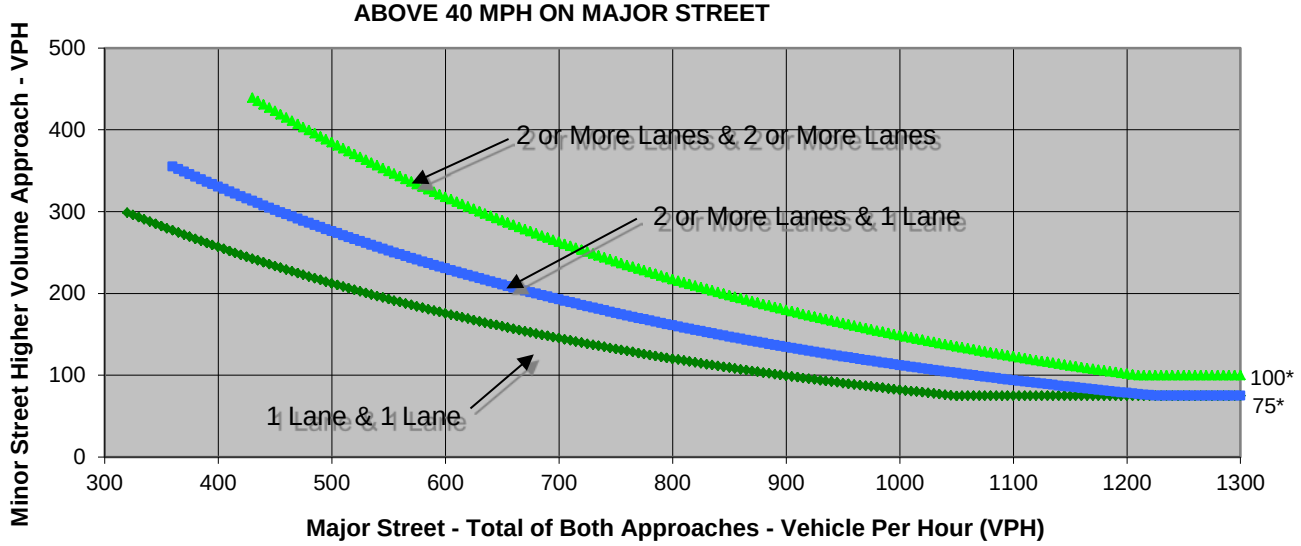
	NB	SB	EB	WB
Left	10	10	10	10
Through	110	80	10	10
Right	10	10	10	10
Total	130	100	30	30

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Realigned (N)	New Access Road	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**230**	**30**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Claribel Road
Minor Street	Bentley Road

Turn Movement Volumes

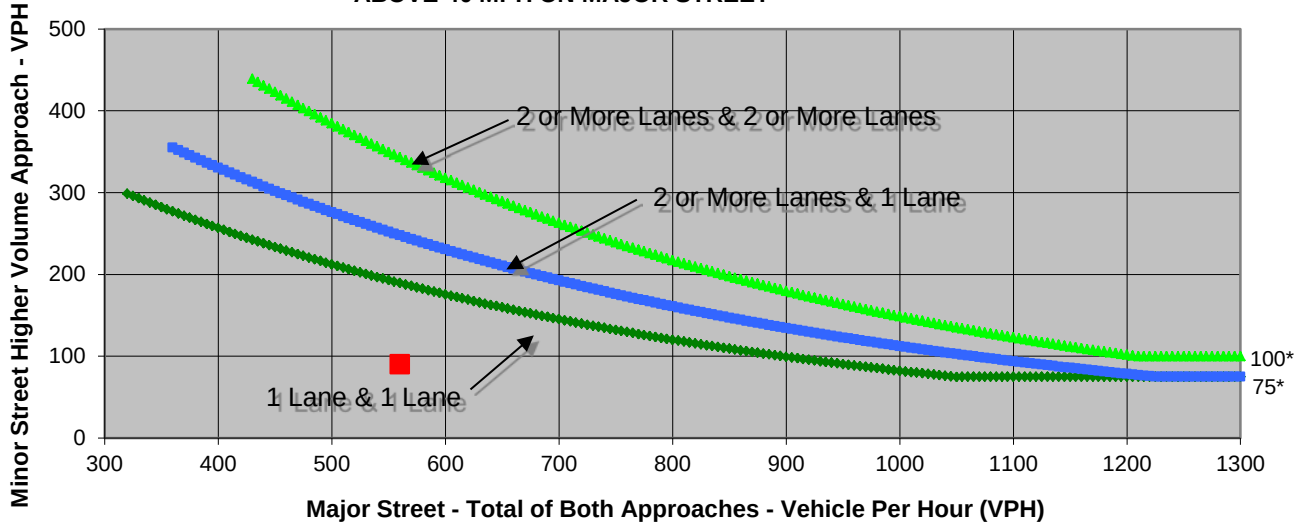
	NB	SB	EB	WB
Left	30	20	20	30
Through	20	40	130	300
Right	30	30	30	50
Total	80	90	180	380

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Bentley Road	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**560**	**90**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Claribel Road
Minor Street	Bentley Road

Turn Movement Volumes

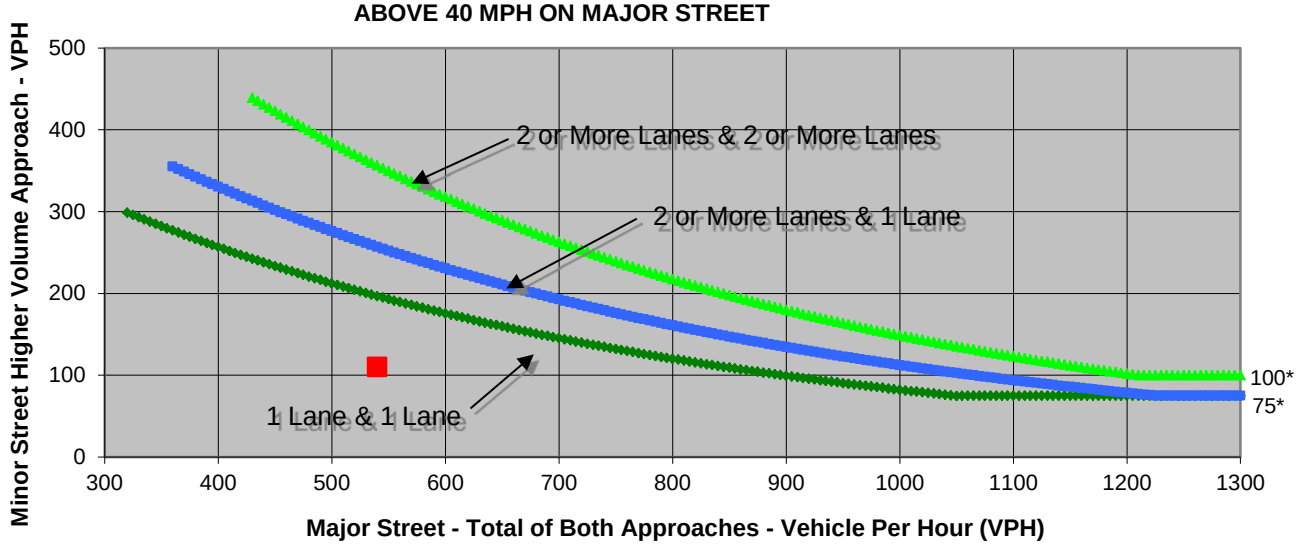
	NB	SB	EB	WB
Left	30	40	20	40
Through	40	30	270	140
Right	40	20	30	40
Total	110	90	320	220

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Bentley Road	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**540**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Claribel Road
Minor Street	Bentley Road

Turn Movement Volumes

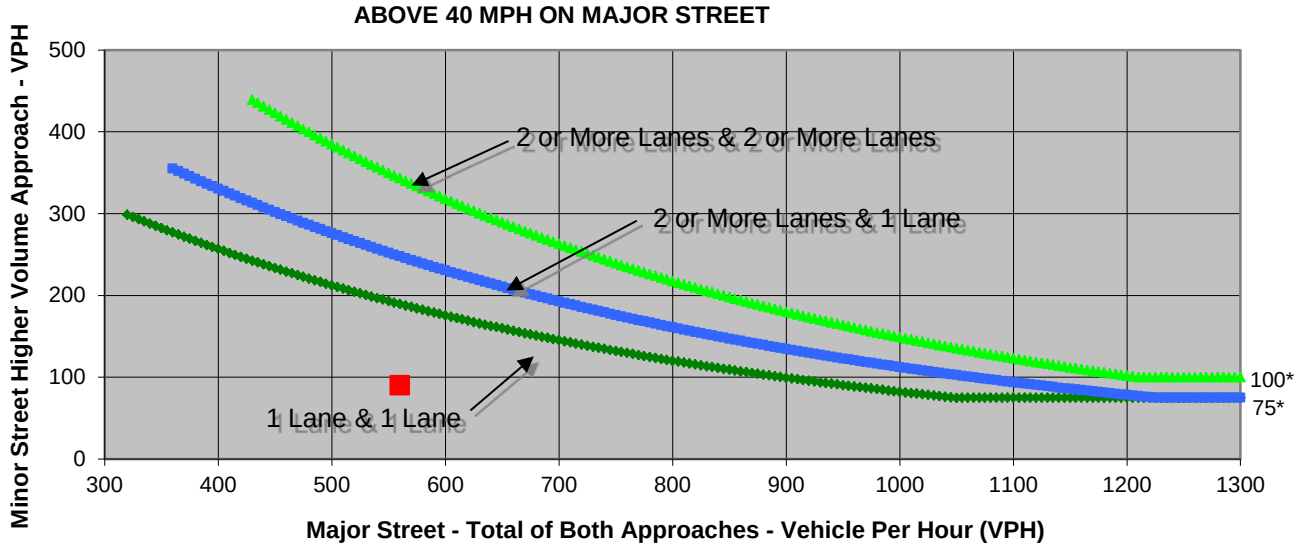
	NB	SB	EB	WB
Left	30	20	20	30
Through	20	40	130	300
Right	30	30	30	50
Total	80	90	180	380

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Bentley Road	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**560**	**90**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Claribel Road
Minor Street	Bentley Road

Turn Movement Volumes

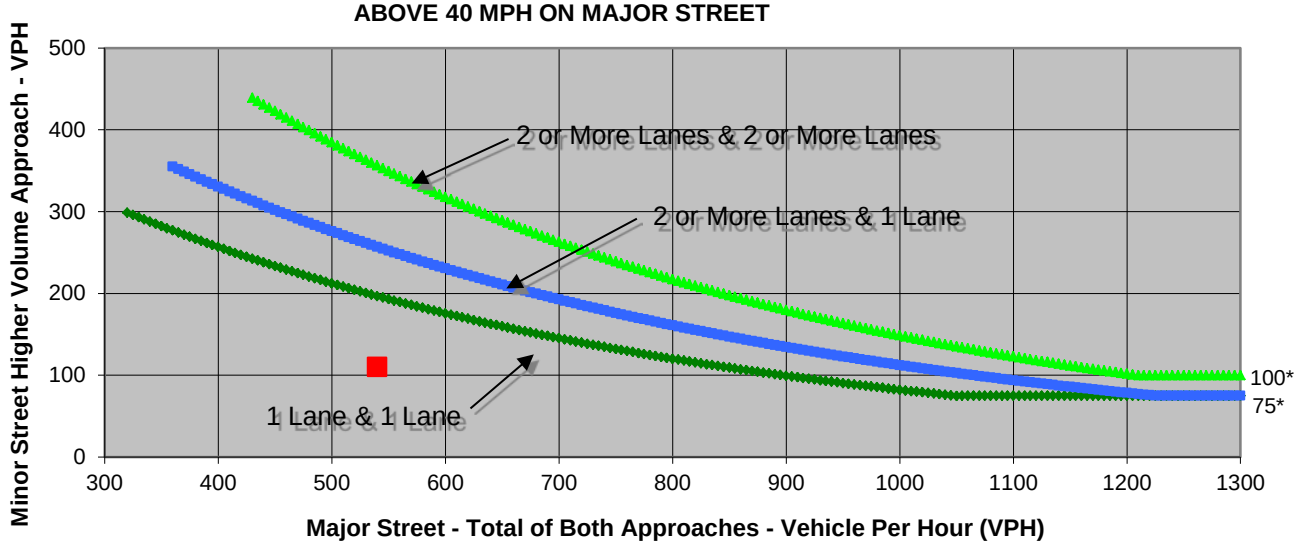
	NB	SB	EB	WB
Left	30	40	20	40
Through	40	30	270	140
Right	40	20	30	40
Total	110	90	320	220

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Bentley Road	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**540**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

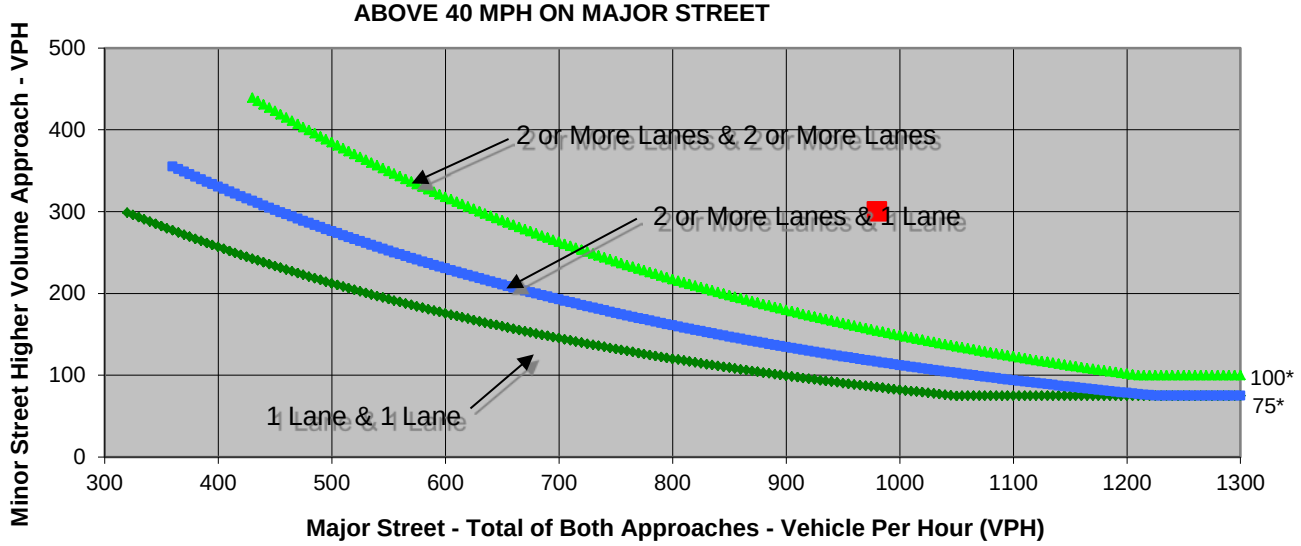
	NB	SB	EB	WB
Left	140	20	40	30
Through	360	420	50	80
Right	20	20	210	50
Total	520	460	300	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**YES**
Traffic Volume (VPH) *	**980**	**300**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

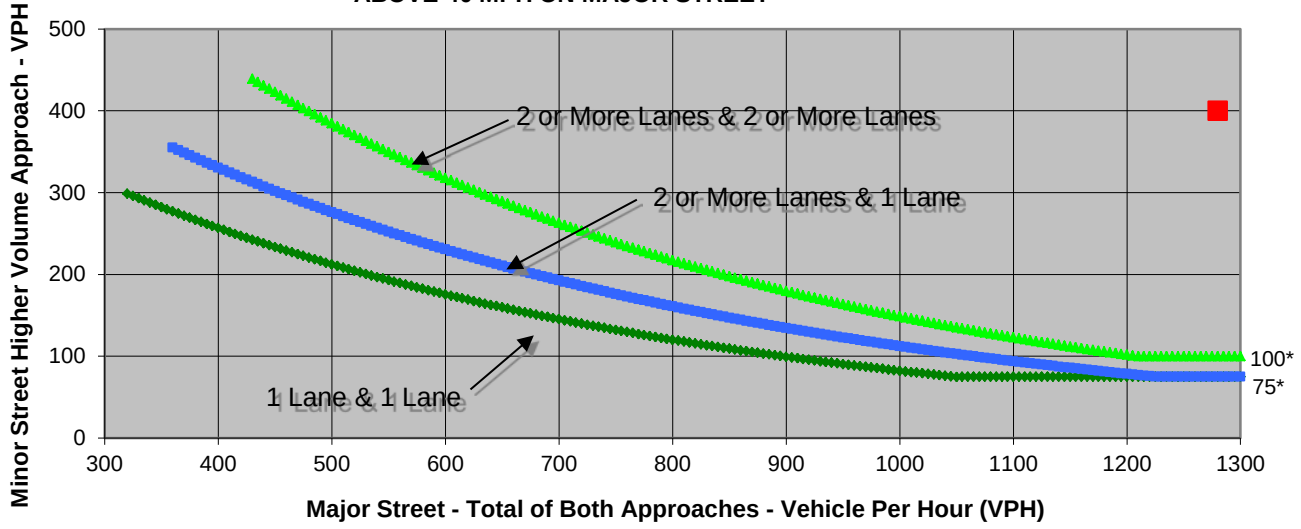
	NB	SB	EB	WB
Left	230	40	20	80
Through	490	410	180	60
Right	80	30	200	20
Total	800	480	400	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**YES**
Traffic Volume (VPH) *	**1,280**	**400**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

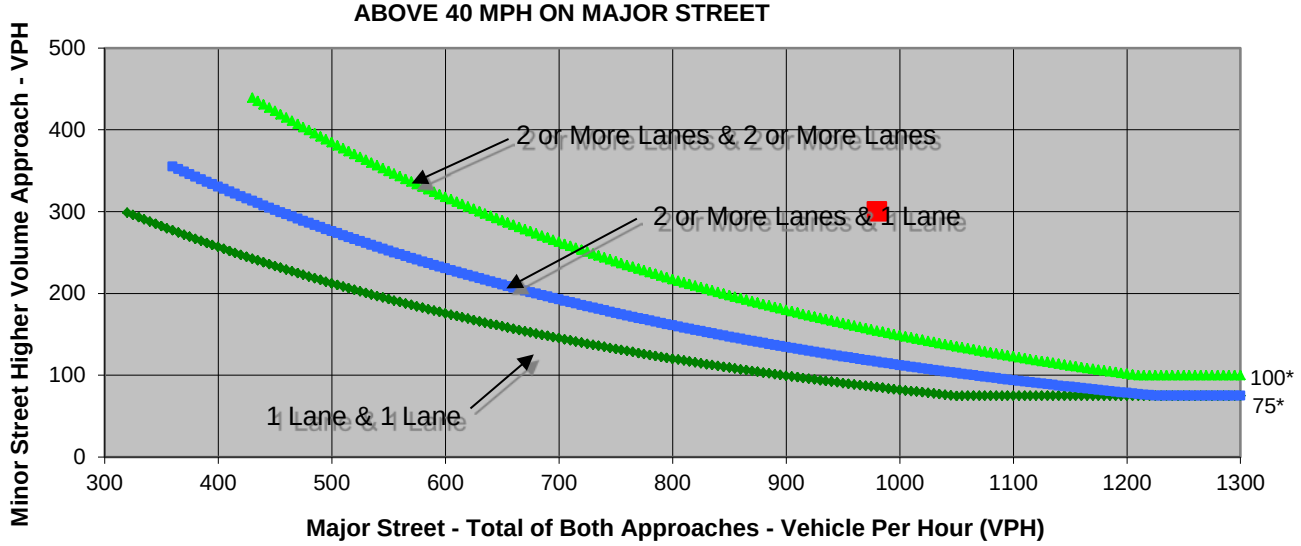
	NB	SB	EB	WB
Left	140	20	40	30
Through	360	420	50	80
Right	20	20	210	50
Total	520	460	300	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**YES**
Traffic Volume (VPH) *	**980**	**300**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

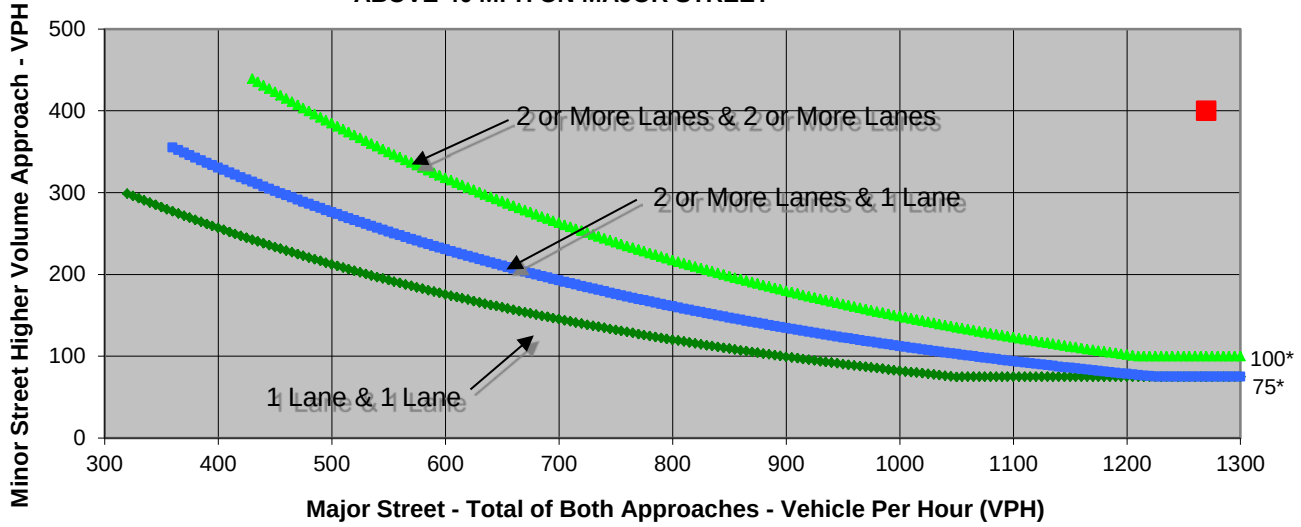
	NB	SB	EB	WB
Left	230	40	20	80
Through	490	410	180	60
Right	80	20	200	20
Total	800	470	400	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**YES**
Traffic Volume (VPH) *	**1,270**	**400**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

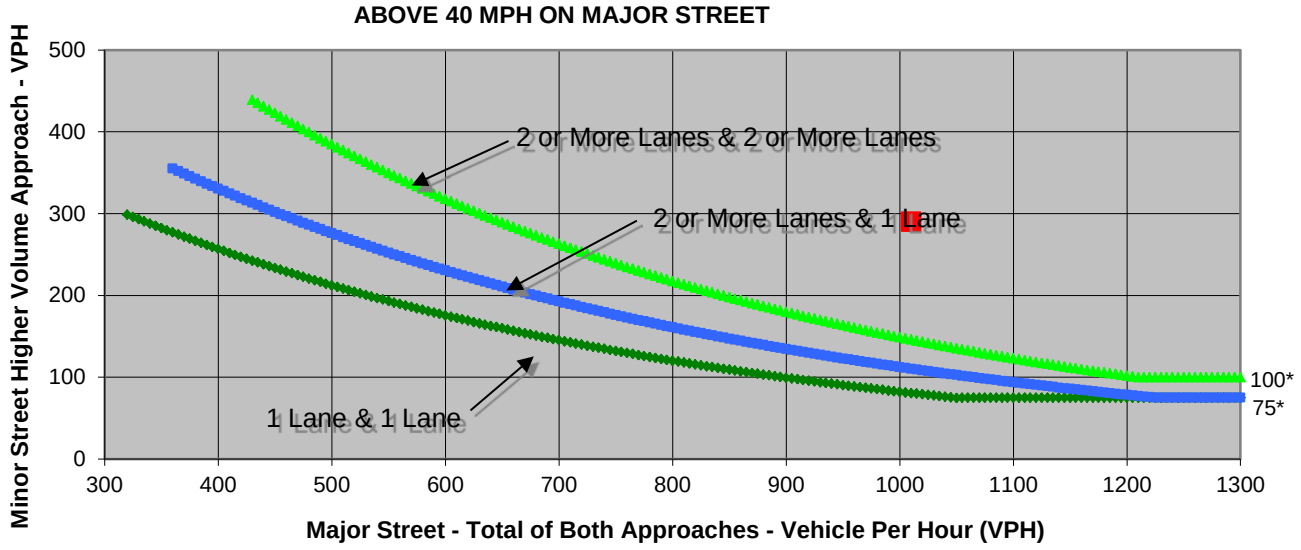
	NB	SB	EB	WB
Left	140	20	40	30
Through	360	440	40	80
Right	30	20	210	50
Total	530	480	290	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**YES**
Traffic Volume (VPH) *	**1,010**	**290**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

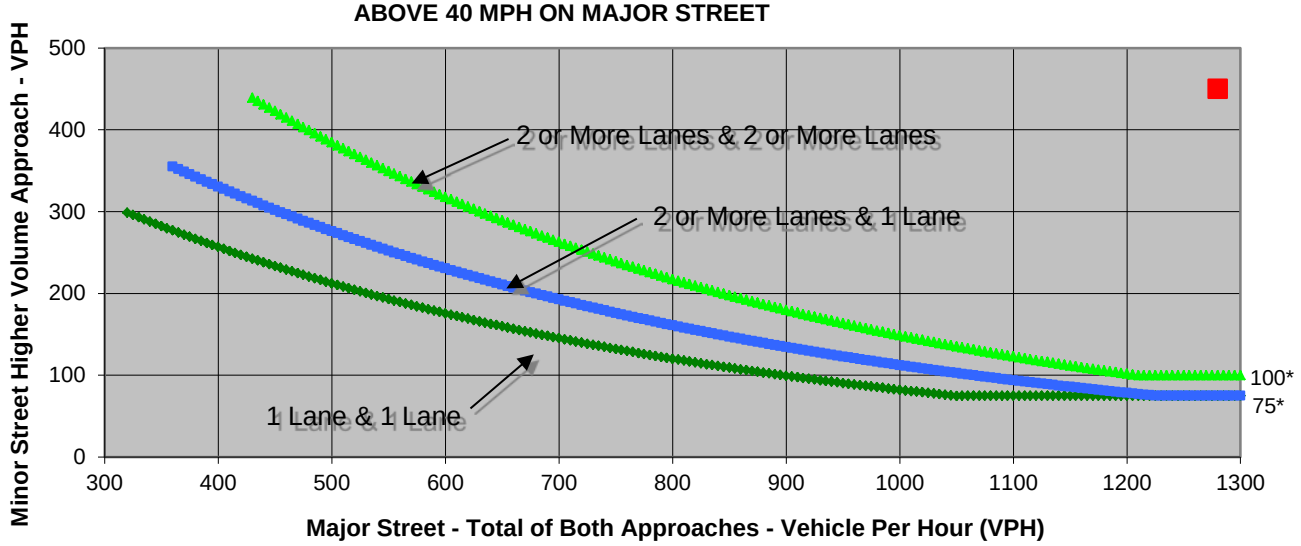
	NB	SB	EB	WB
Left	220	40	20	80
Through	510	410	190	60
Right	80	20	240	20
Total	810	470	450	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**YES**
Traffic Volume (VPH) *	**1,280**	**450**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

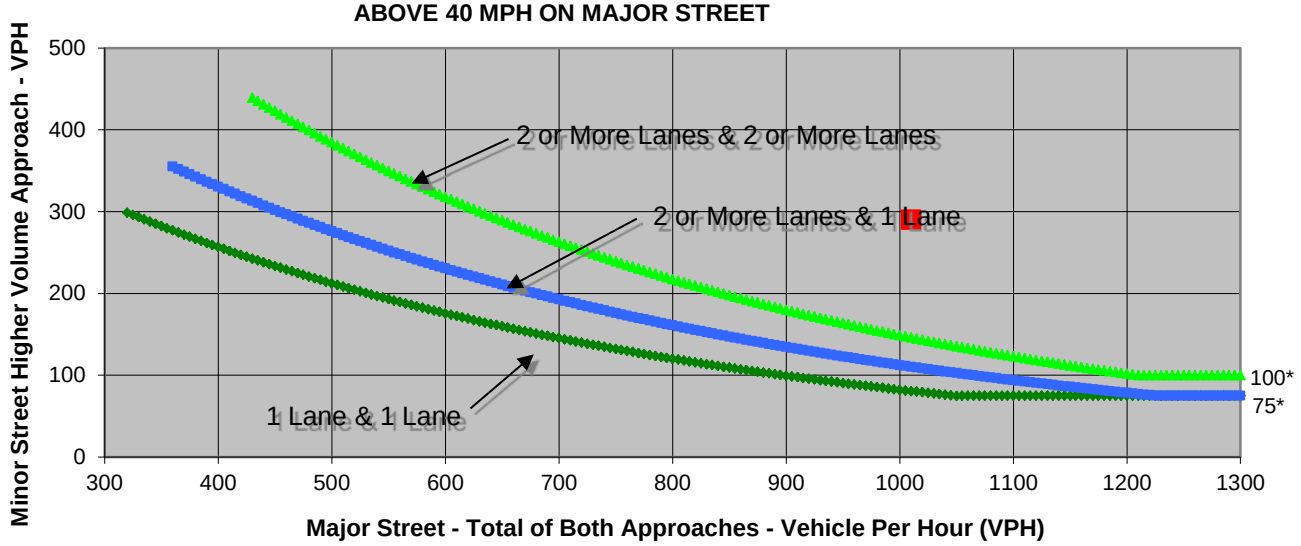
	NB	SB	EB	WB
Left	140	20	40	30
Through	360	440	40	80
Right	30	20	210	50
Total	530	480	290	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**YES**
Traffic Volume (VPH) *	**1,010**	**290**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Claribel Road Realigned

Turn Movement Volumes

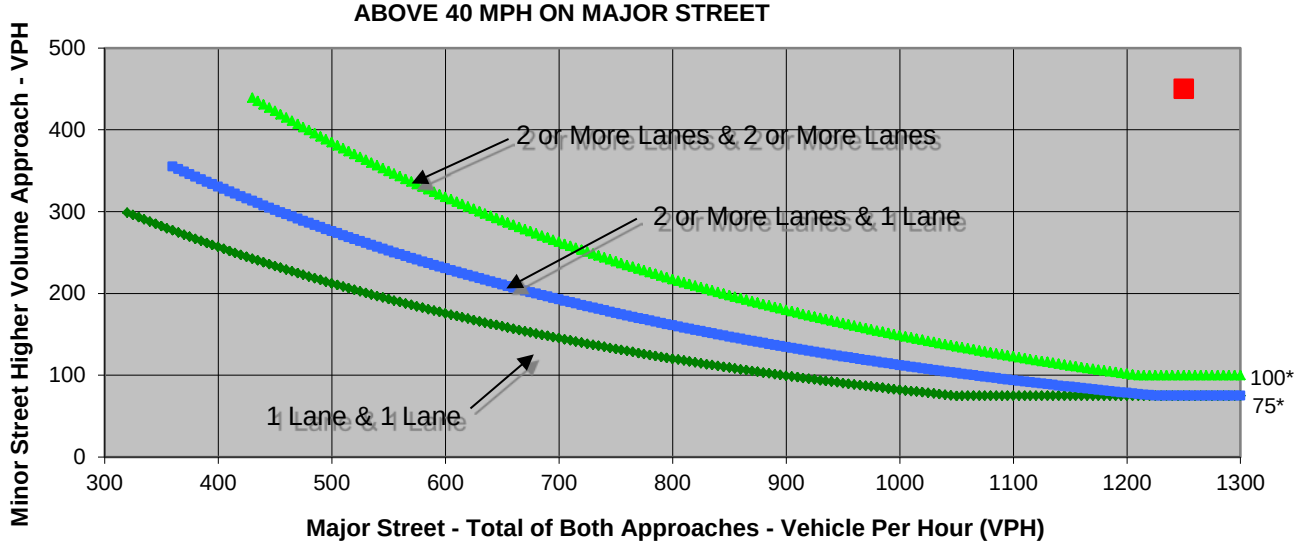
	NB	SB	EB	WB
Left	220	40	20	160
Through	510	410	190	60
Right	50	20	240	20
Total	780	470	450	240

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Claribel Road Realigned	
Number of Approach Lanes	**3**	**3**	**YES**
Traffic Volume (VPH) *	**1,250**	**450**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

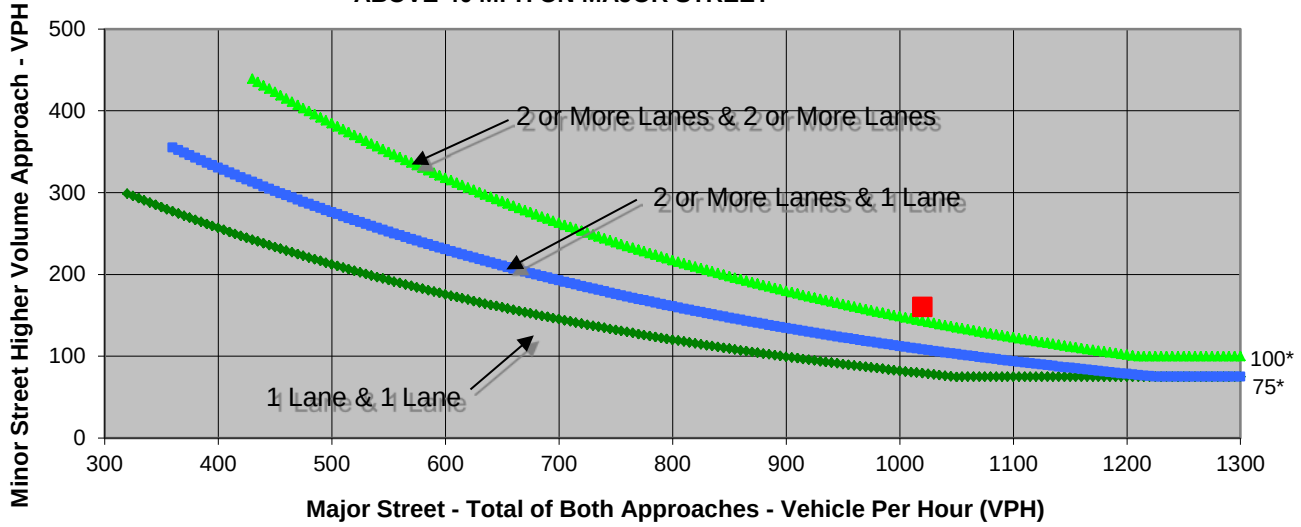
	NB	SB	EB	WB
Left	50	50	50	100
Through	220	600	10	10
Right	50	50	50	50
Total	320	700	110	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,020**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

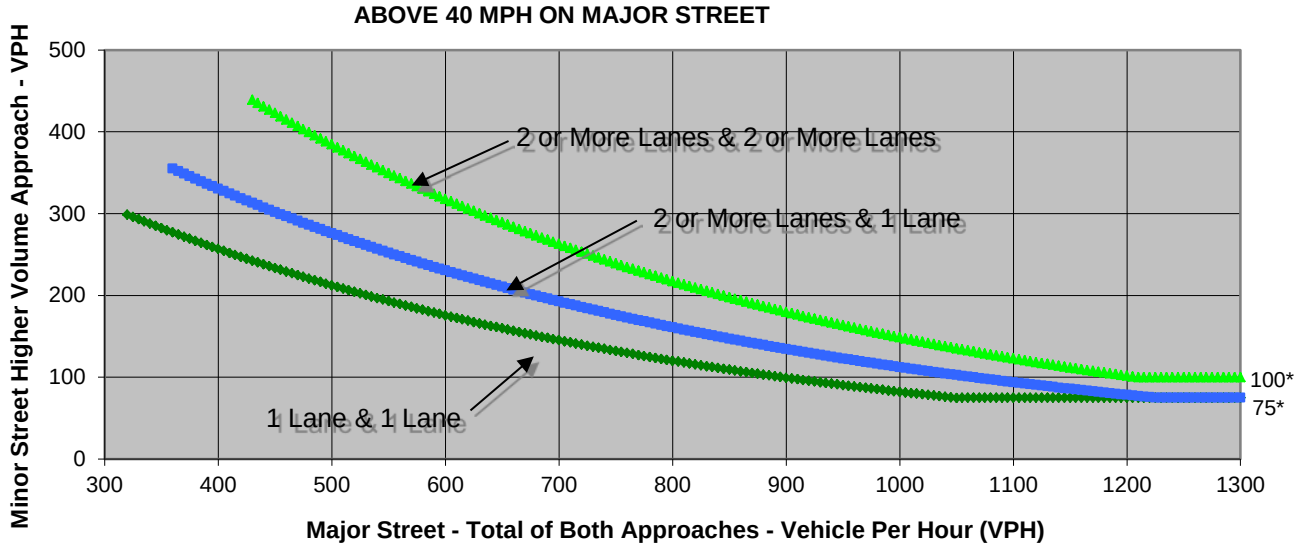
	NB	SB	EB	WB
Left	50	50	50	100
Through	870	390	10	10
Right	100	50	50	50
Total	1,020	490	110	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,510**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

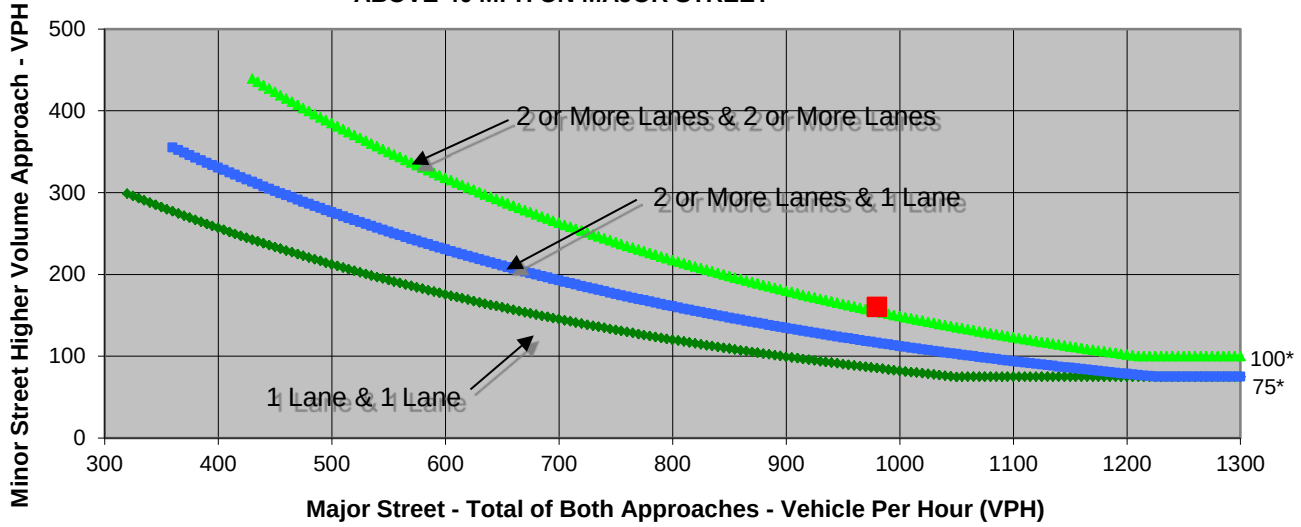
	NB	SB	EB	WB
Left	50	50	50	100
Through	230	600	10	10
Right	50	0	50	50
Total	330	650	110	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**980**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

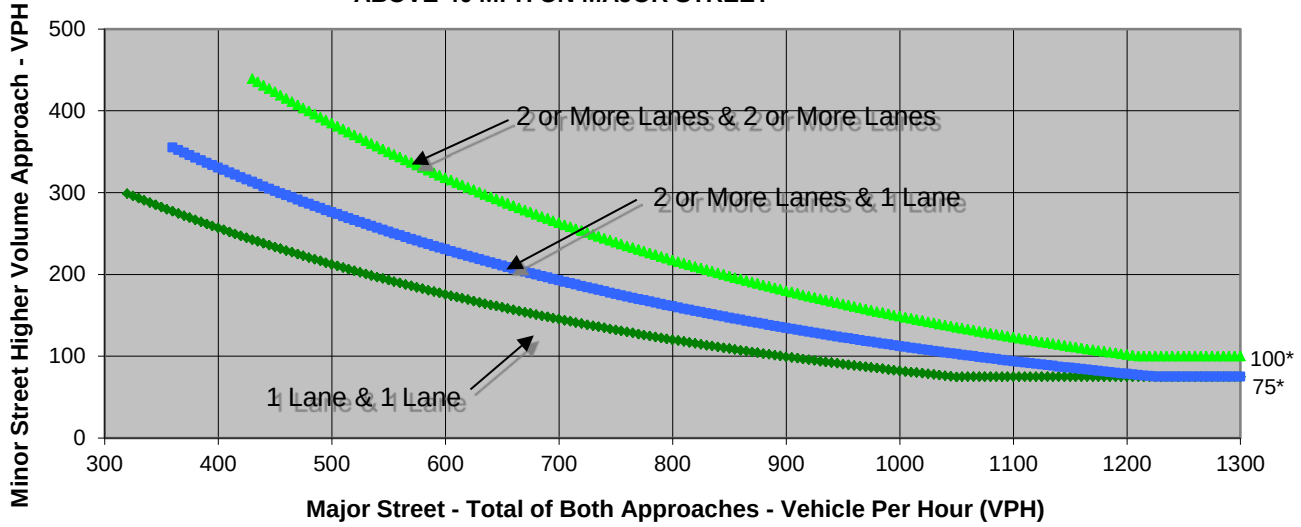
	NB	SB	EB	WB
Left	50	50	50	100
Through	880	390	10	10
Right	100	50	50	50
Total	1,030	490	110	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,520**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

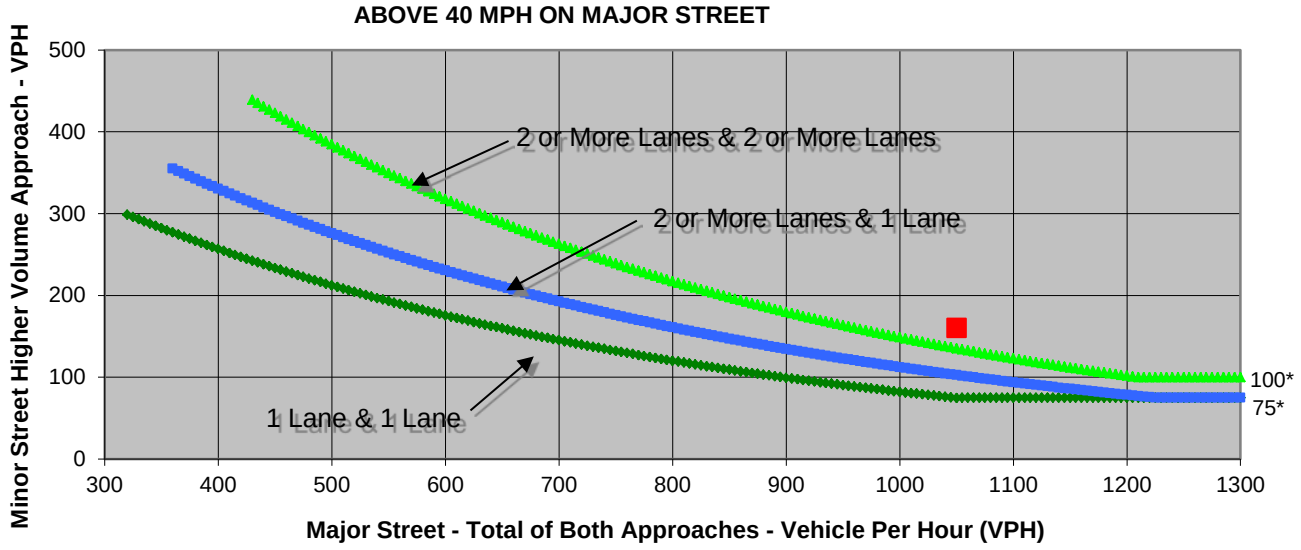
	NB	SB	EB	WB
Left	50	50	50	100
Through	230	620	10	10
Right	50	50	50	50
Total	330	720	110	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,050**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

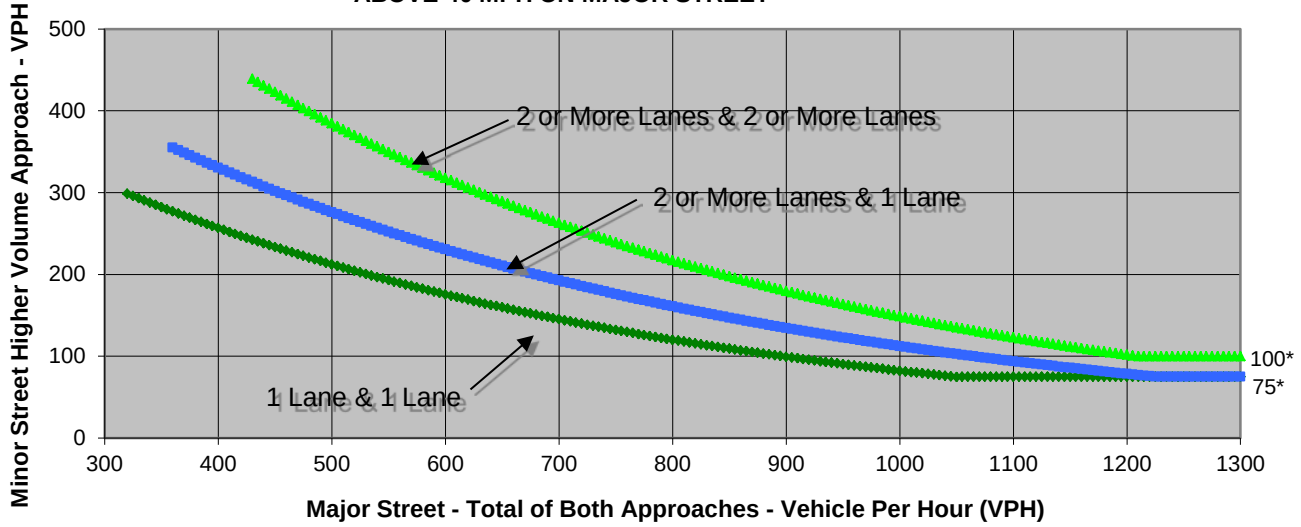
	NB	SB	EB	WB
Left	50	50	50	100
Through	840	440	10	10
Right	100	50	50	50
Total	990	540	110	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,530**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

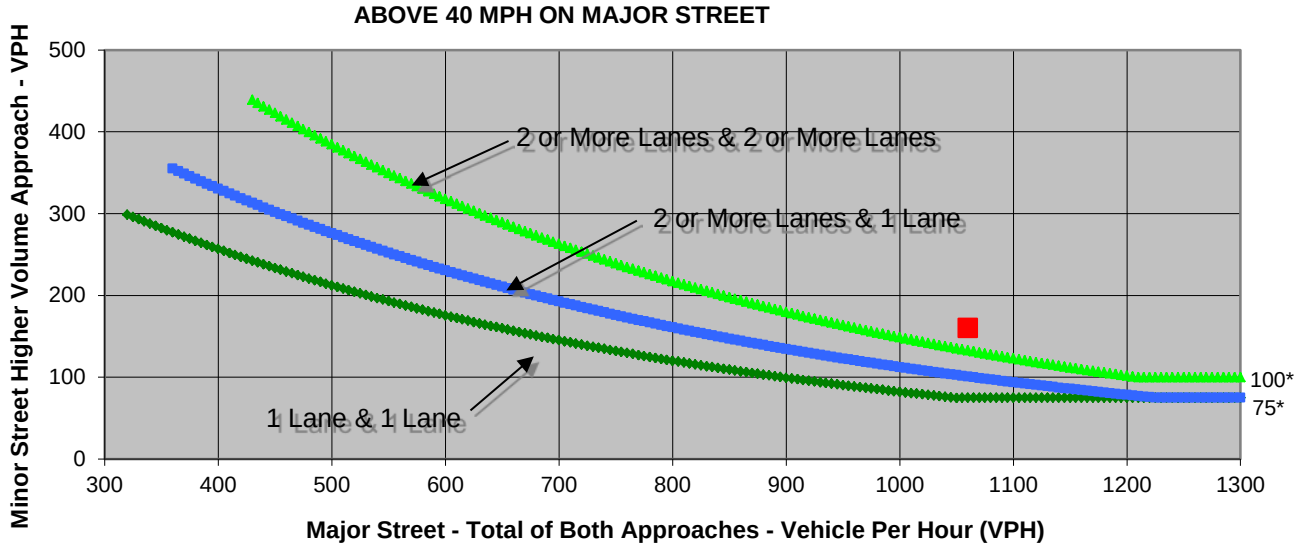
	NB	SB	EB	WB
Left	50	50	50	100
Through	240	620	10	10
Right	50	50	50	50
Total	340	720	110	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,060**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road North

Turn Movement Volumes

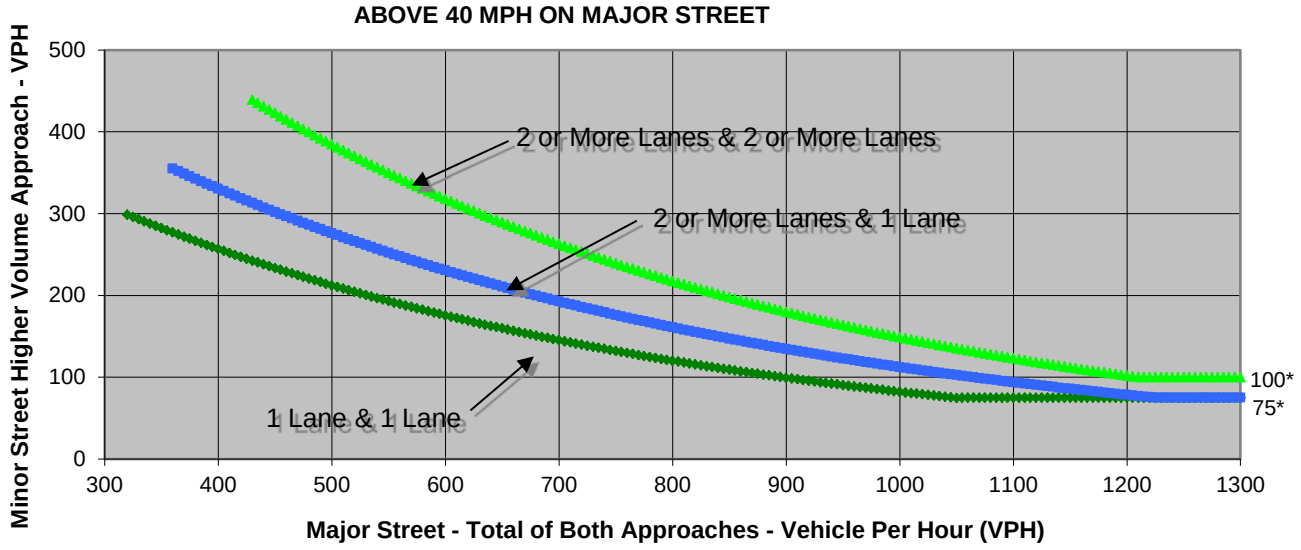
	NB	SB	EB	WB
Left	50	50	50	100
Through	850	450	10	10
Right	100	50	50	50
Total	1,000	550	110	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road North	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,550**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

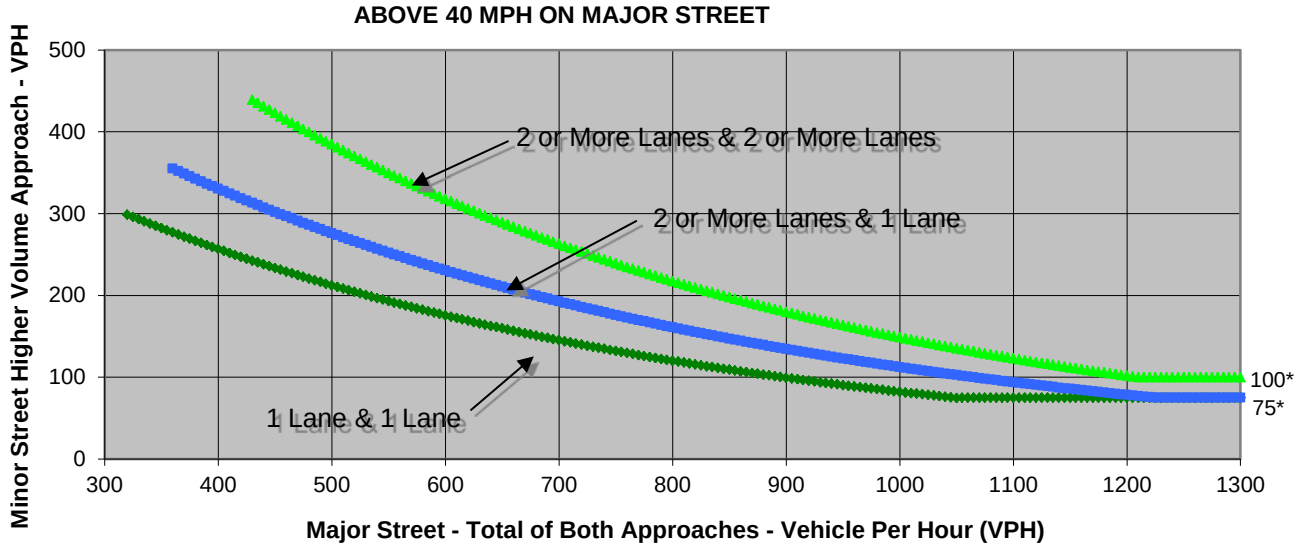
	NB	SB	EB	WB
Left	50	100	100	50
Through	780	530	10	10
Right	50	100	50	100
Total	880	730	160	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,610**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

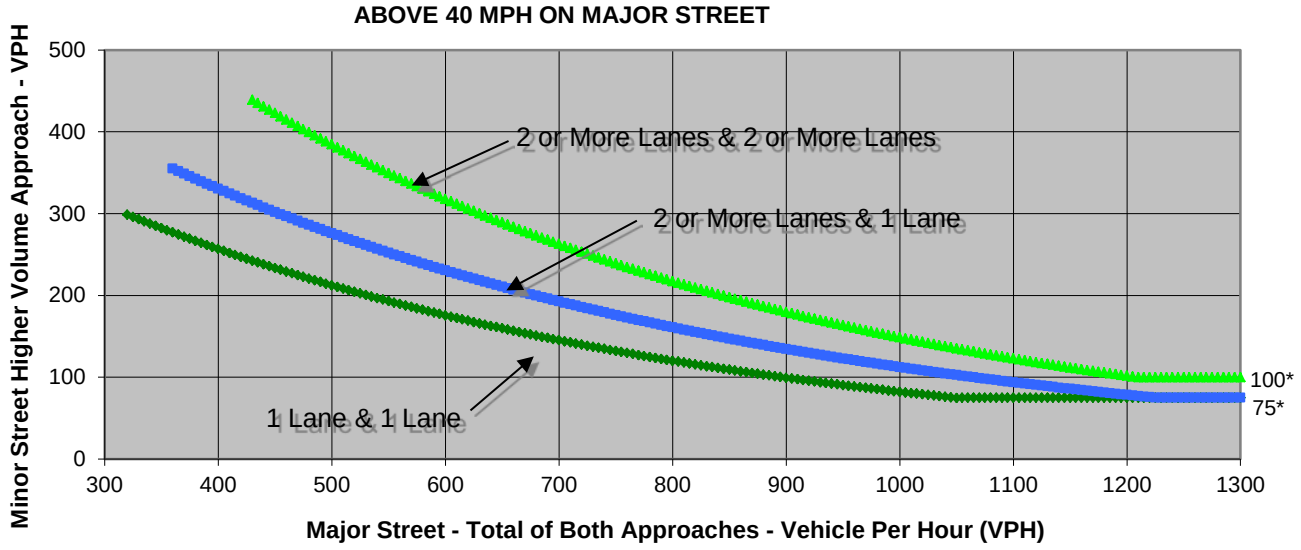
	NB	SB	EB	WB
Left	50	100	100	50
Through	810	760	10	10
Right	50	100	50	100
Total	910	960	160	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,870**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

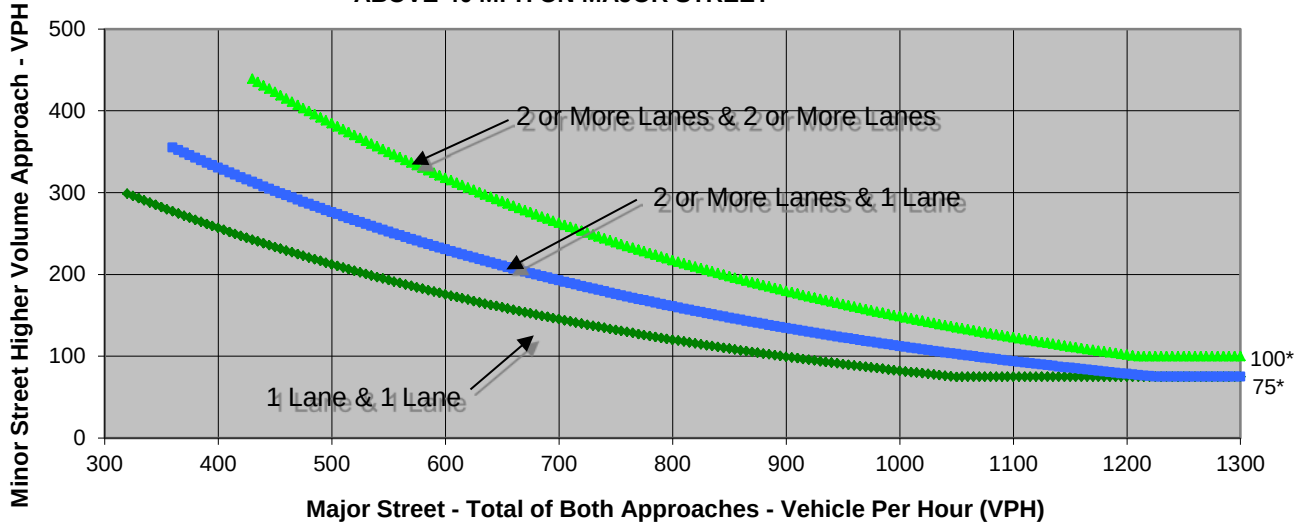
	NB	SB	EB	WB
Left	50	100	100	50
Through	780	530	10	10
Right	50	100	50	100
Total	880	730	160	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,610**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

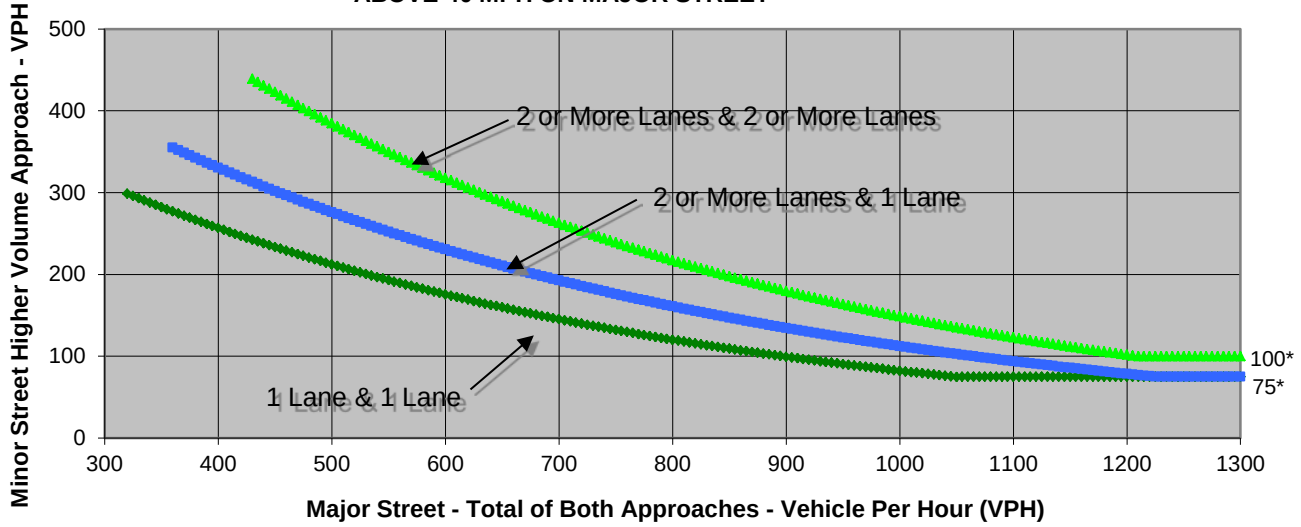
	NB	SB	EB	WB
Left	50	100	100	50
Through	810	760	10	10
Right	50	100	50	100
Total	910	960	160	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,870**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

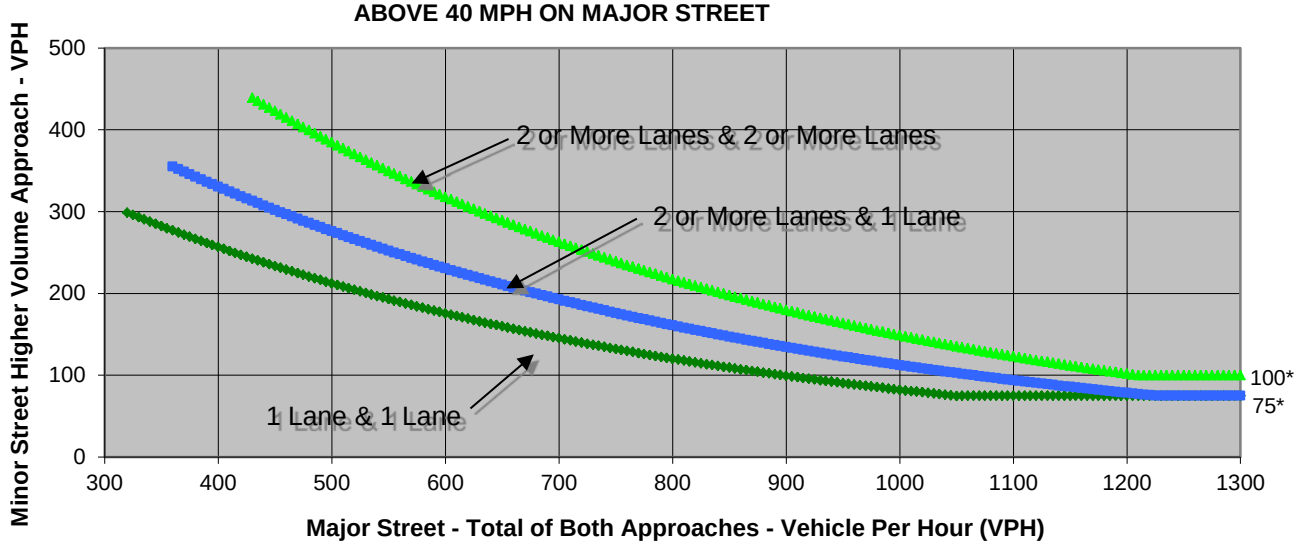
	NB	SB	EB	WB
Left	50	100	100	50
Through	680	520	10	10
Right	50	100	50	100
Total	780	720	160	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,500**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

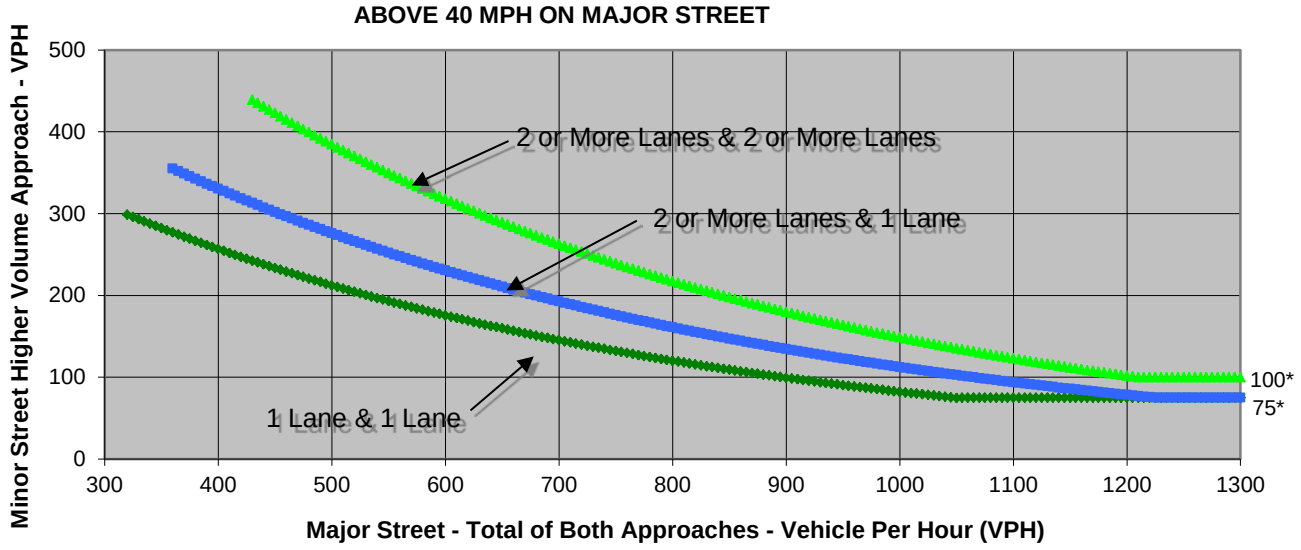
	NB	SB	EB	WB
Left	50	100	100	50
Through	780	720	10	10
Right	50	100	50	100
Total	880	920	160	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,800**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

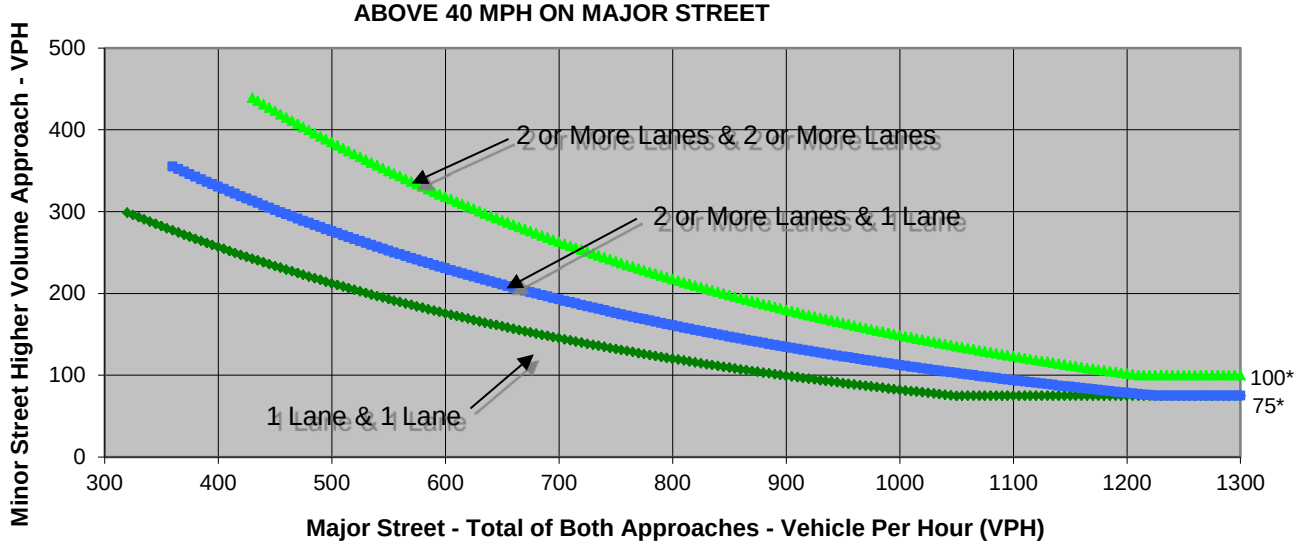
	NB	SB	EB	WB
Left	50	100	100	50
Through	680	520	10	10
Right	50	100	50	100
Total	780	720	160	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,500**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Frontage Road South

Turn Movement Volumes

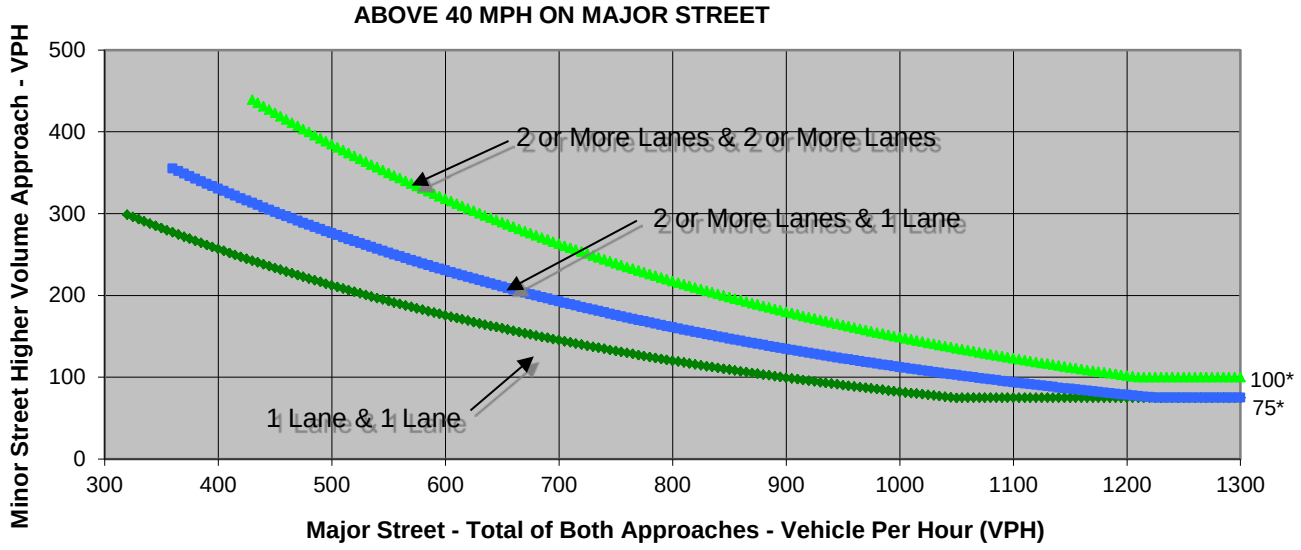
	NB	SB	EB	WB
Left	50	100	100	50
Through	780	720	10	10
Right	50	100	50	100
Total	880	920	160	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Frontage Road South	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,800**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	NCC
Minor Street	Crane Road

Turn Movement Volumes

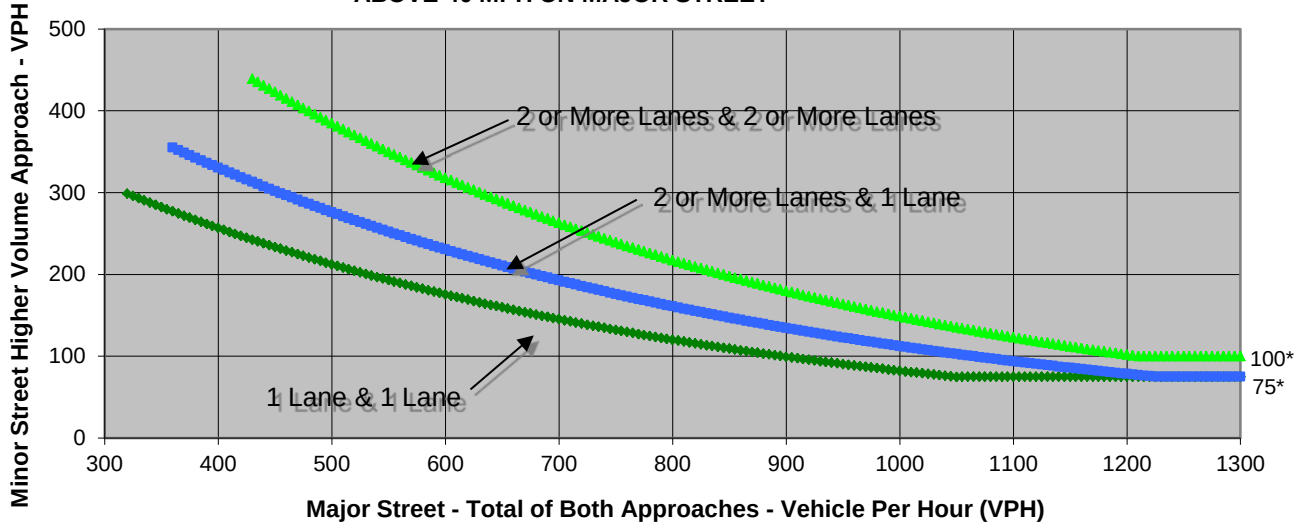
	NB	SB	EB	WB
Left	40	70	550	30
Through	60	50	1,290	820
Right	170	880	20	50
Total	270	1,000	1,860	900

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Crane Road	
Number of Approach Lanes	**6**	**4**	**YES**
Traffic Volume (VPH) *	**2,760**	**1,000**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	NCC
Minor Street	Crane Road

Turn Movement Volumes

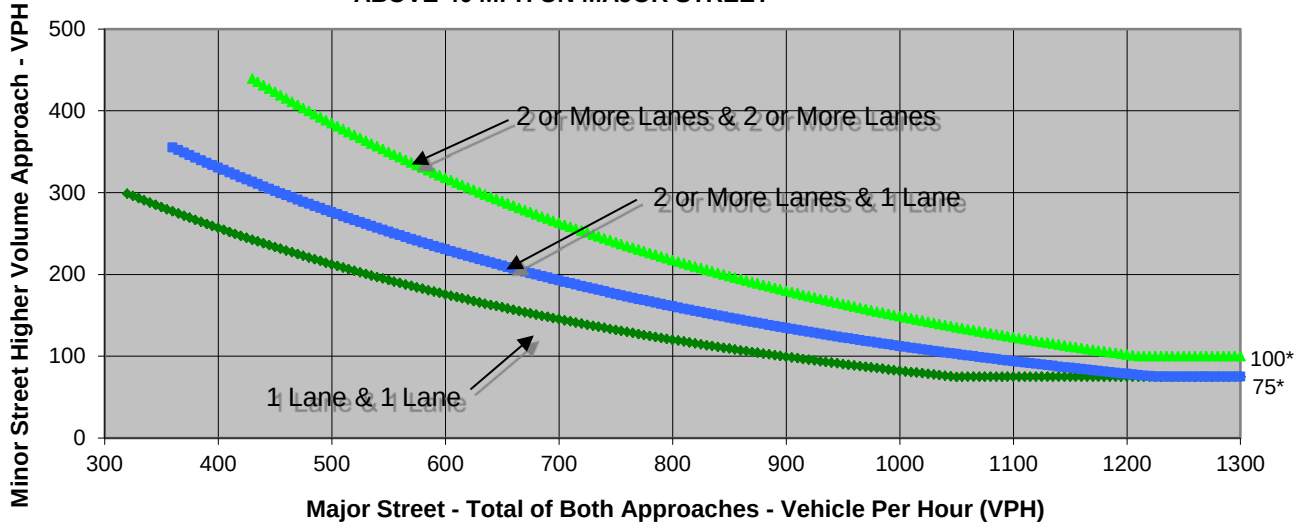
	NB	SB	EB	WB
Left	20	60	800	240
Through	50	90	1,000	1,320
Right	240	820	50	80
Total	310	970	1,850	1,640

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Crane Road	
Number of Approach Lanes	**6**	**4**	**YES**
Traffic Volume (VPH) *	**3,490**	**970**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	NCC
Minor Street	Crane Road

Turn Movement Volumes

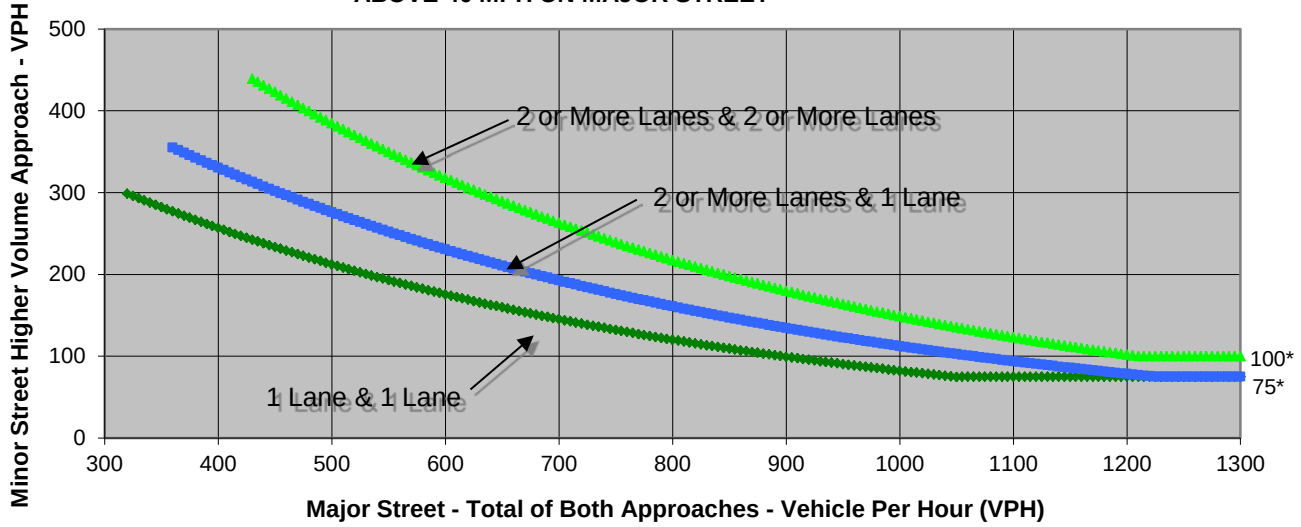
	NB	SB	EB	WB
Left	40	60	570	50
Through	60	50	1,230	720
Right	150	900	20	30
Total	250	1,010	1,820	800

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Crane Road	
Number of Approach Lanes	**6**	**4**	**YES**
Traffic Volume (VPH) *	**2,620**	**1,010**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	NCC
Minor Street	Crane Road

Turn Movement Volumes

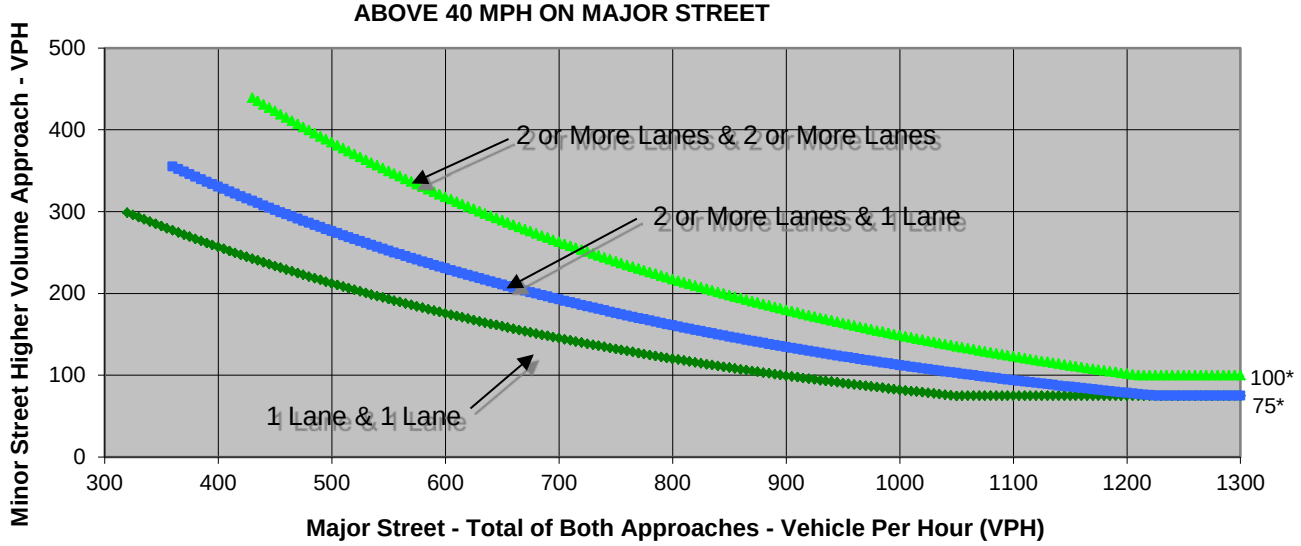
	NB	SB	EB	WB
Left	20	60	820	240
Through	50	90	900	1,270
Right	240	820	50	70
Total	310	970	1,770	1,580

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Crane Road	
Number of Approach Lanes	**6**	**4**	**YES**
Traffic Volume (VPH) *	**3,350**	**970**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 No Project
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Carver Road

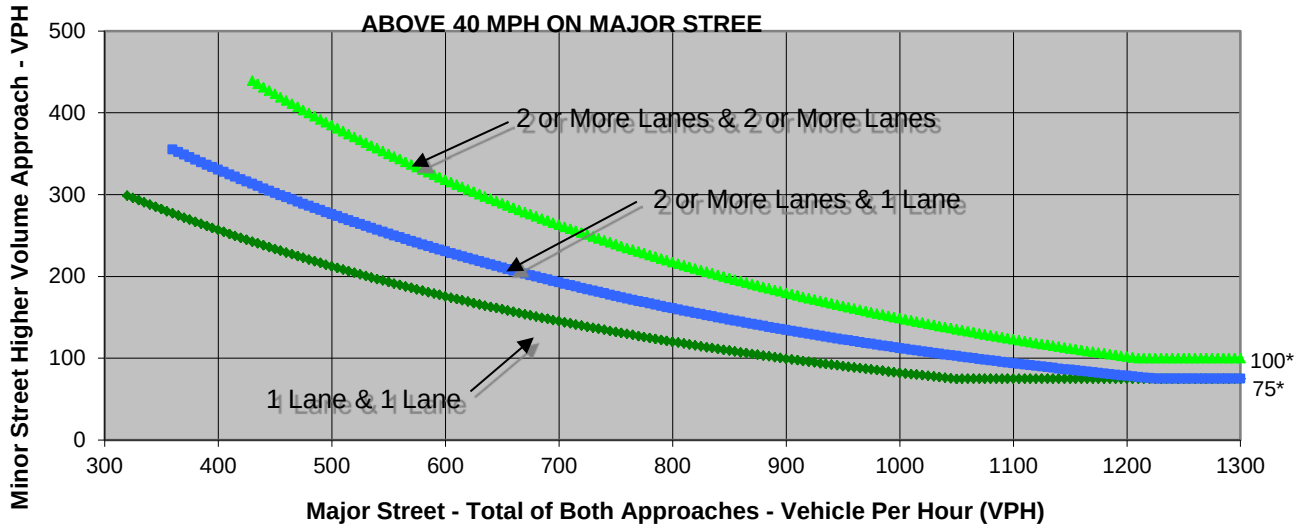
Turn Movement Volumes

	NB	SB	EB	WB
Left	220	30	70	90
Through	80	140	1,040	1,420
Right	40	100	160	70
Total	340	270	1,270	1,580

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**2,850**	**340**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 No Project
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Carver Road

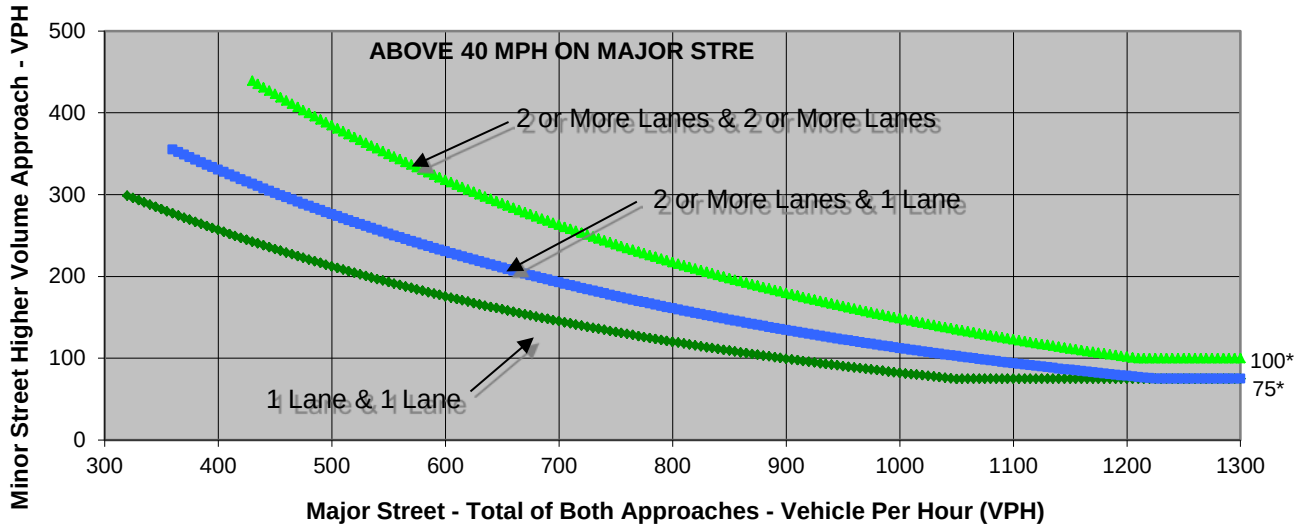
Turn Movement Volumes

	NB	SB	EB	WB
Left	160	120	60	60
Through	110	90	1,500	1,640
Right	160	30	270	60
Total	430	240	1,830	1,760

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**3,590**	**430**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

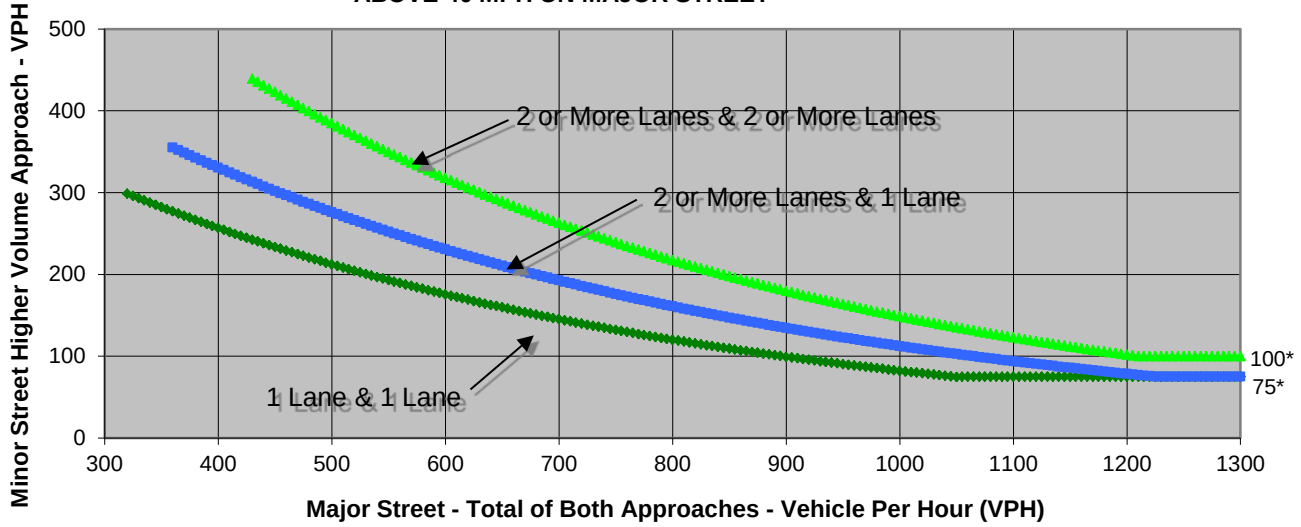
	NB	SB	EB	WB
Left	220	30	70	240
Through	80	140	1,190	1,700
Right	40	60	140	70
Total	340	230	1,400	2,010

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**3,410**	**340**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

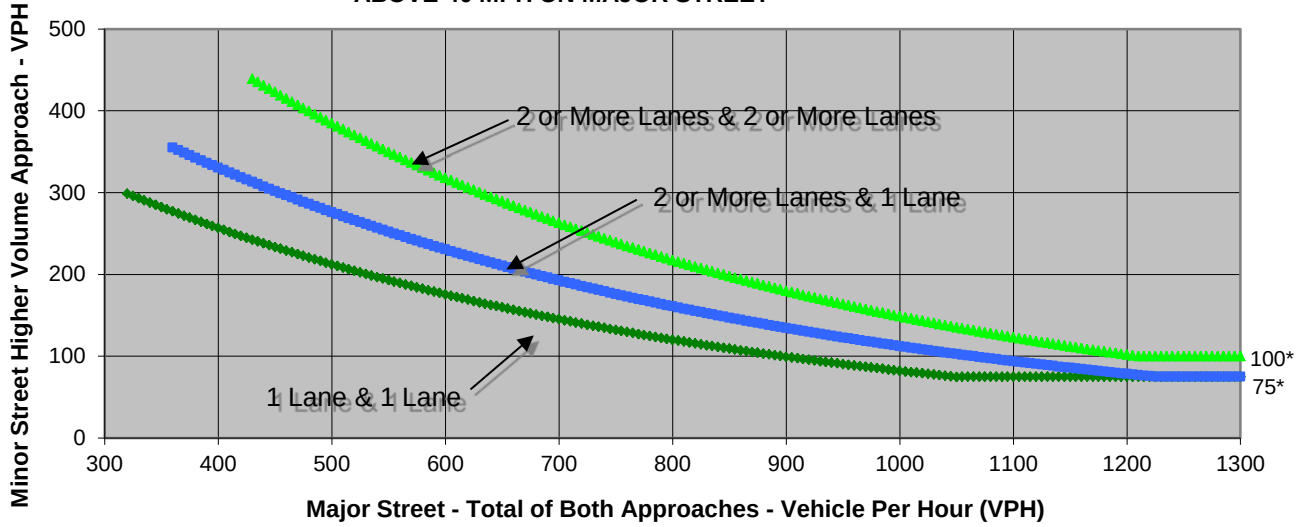
	NB	SB	EB	WB
Left	160	150	60	200
Through	110	90	1,670	1,760
Right	190	20	270	100
Total	460	260	2,000	2,060

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**4,060**	**460**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

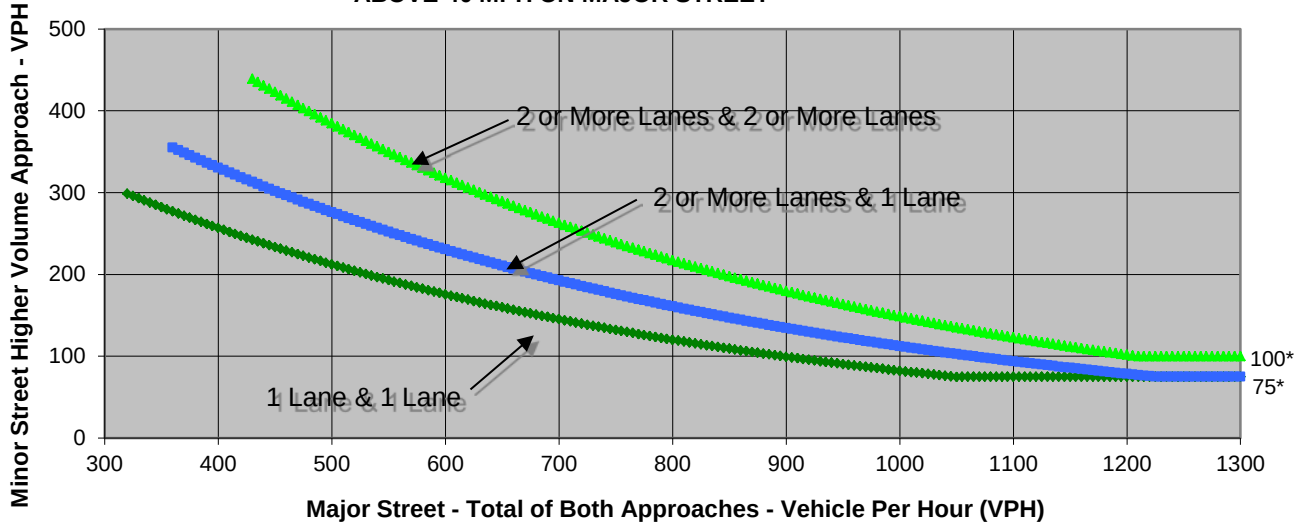
	NB	SB	EB	WB
Left	220	30	70	240
Through	80	140	1,190	1,700
Right	40	60	140	70
Total	340	230	1,400	2,010

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**3,410**	**340**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

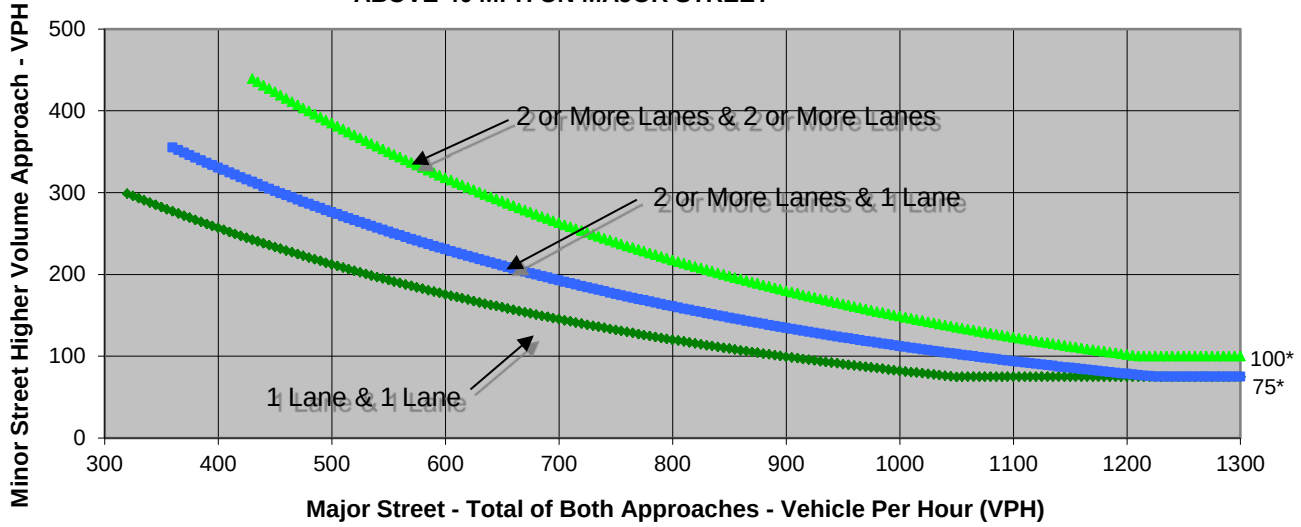
	NB	SB	EB	WB
Left	160	150	60	200
Through	110	90	1,670	1,760
Right	190	20	270	100
Total	460	260	2,000	2,060

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**4,060**	**460**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

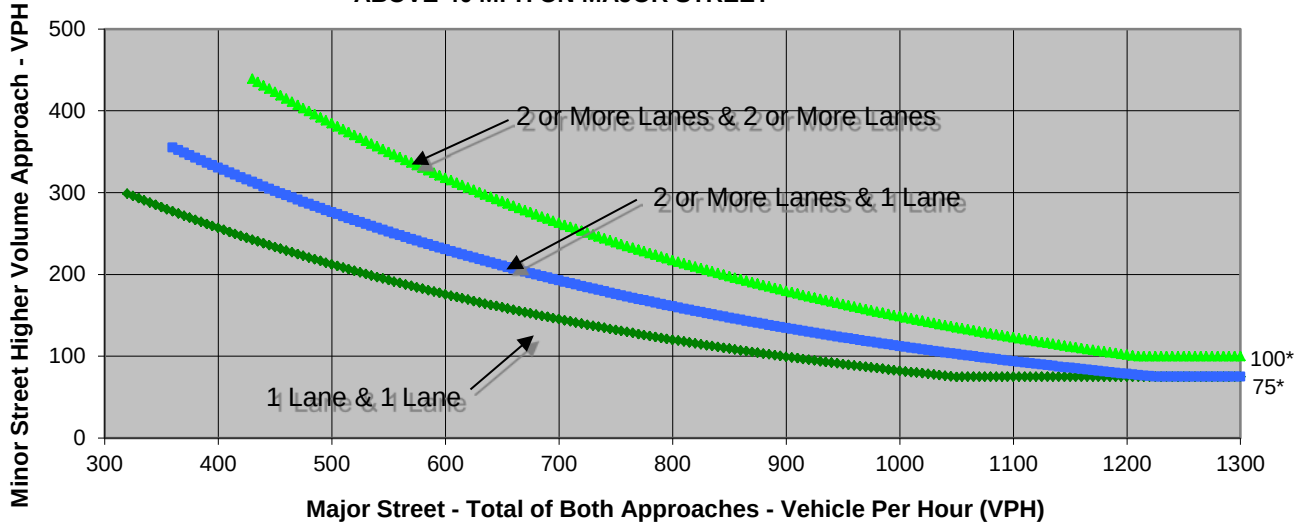
	NB	SB	EB	WB
Left	220	30	70	220
Through	80	90	1,150	1,670
Right	40	70	140	70
Total	340	190	1,360	1,960

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**3,320**	**340**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

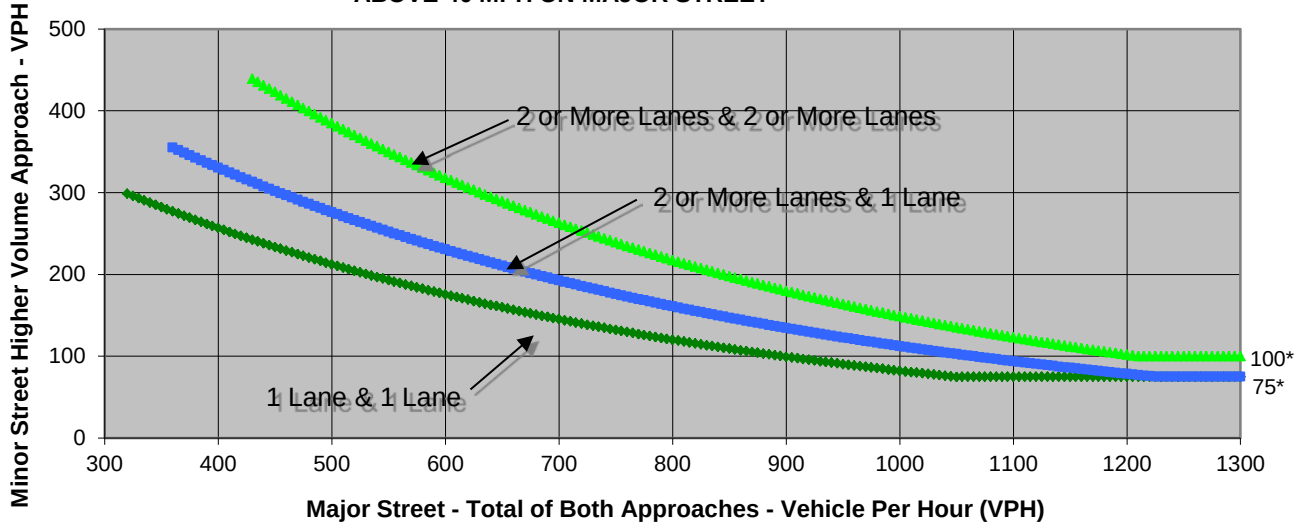
	NB	SB	EB	WB
Left	160	150	60	140
Through	110	90	1,580	1,750
Right	190	20	270	80
Total	460	260	1,910	1,970

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**3,880**	**460**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	NCC Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

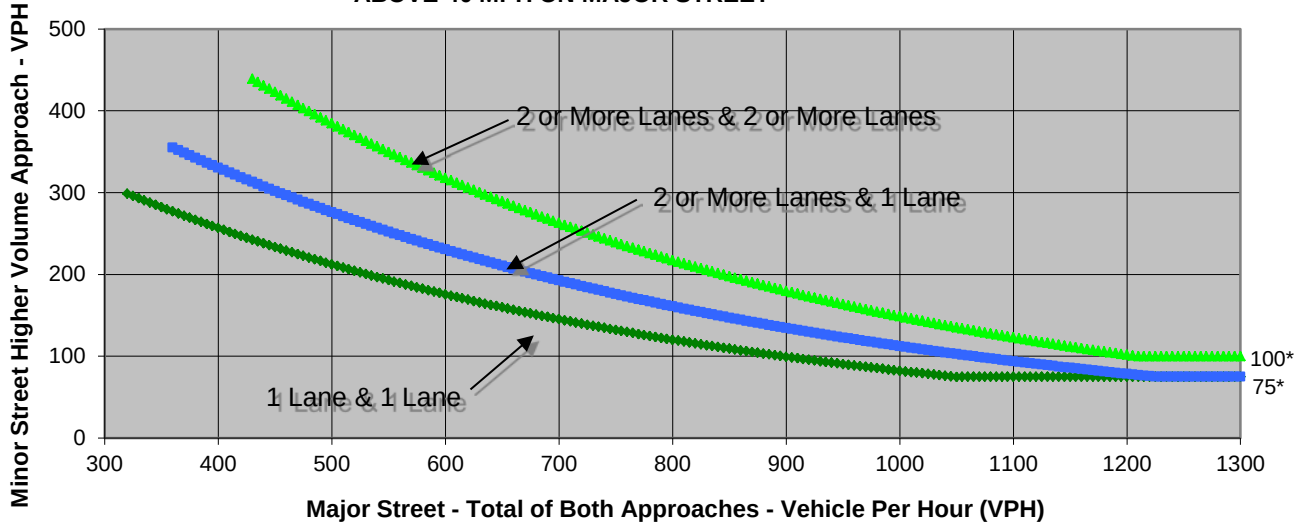
	NB	SB	EB	WB
Left	220	30	70	220
Through	80	90	1,150	1,670
Right	40	70	140	70
Total	340	190	1,360	1,960

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**3,320**	**340**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	NCC Kiernan Avenue
Minor Street	Carver Road

Turn Movement Volumes

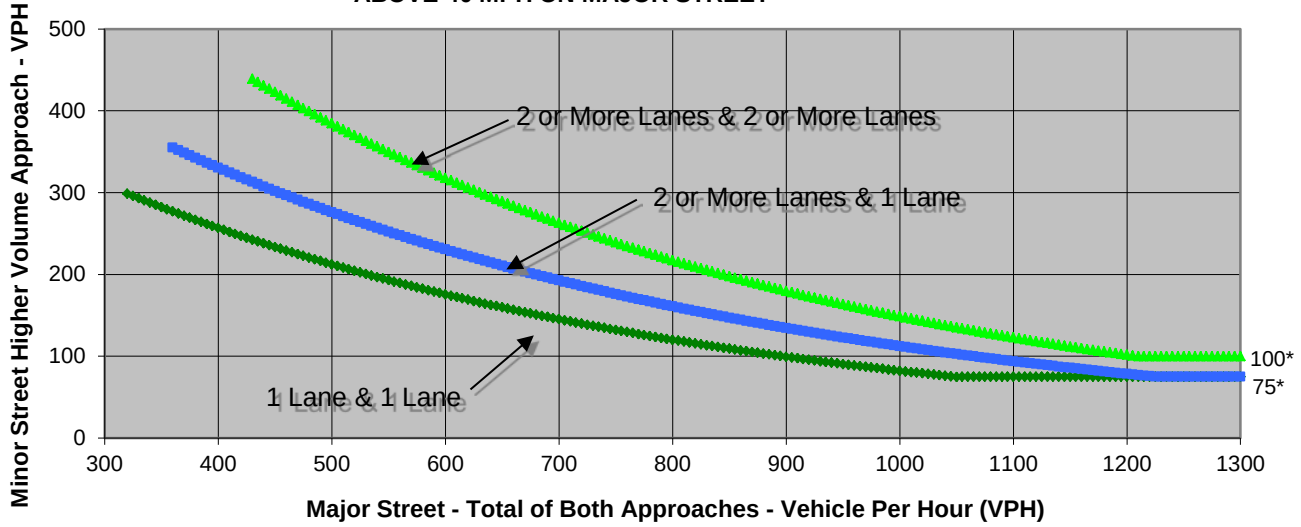
	NB	SB	EB	WB
Left	160	150	60	140
Through	110	90	1,580	1,750
Right	190	20	270	80
Total	460	260	1,910	1,970

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC Kiernan Avenue	Carver Road	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**3,880**	**460**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 No Project
Peak Hour	AM

Major Street	NCC Claribel Road
Minor Street	Coffee Road

Turn Movement Volumes

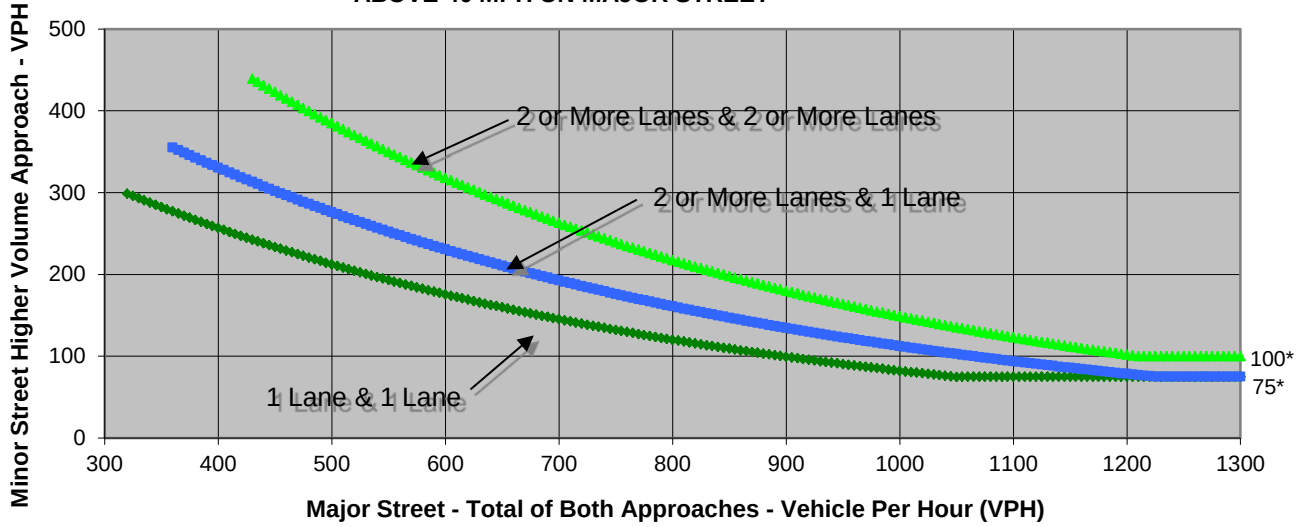
	NB	SB	EB	WB
Left	160	30	80	110
Through	120	290	470	1,200
Right				
Total	280	320	550	1,310

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC Claribel Road	Coffee Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,860**	**320**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 No Project
Peak Hour	PM

Major Street	NCC Claribel Road
Minor Street	Coffee Road

Turn Movement Volumes

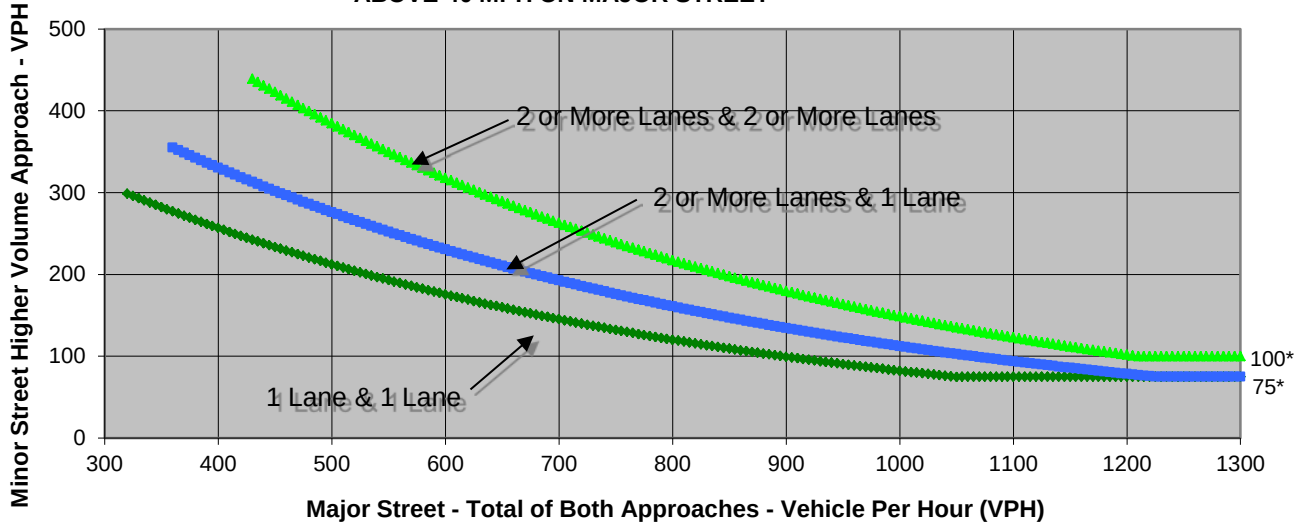
	NB	SB	EB	WB
Left	100	50	250	180
Through	400	220	840	890
Right				
Total	500	270	1,090	1,070

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC Claribel Road	Coffee Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**2,160**	**500**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Coffee Road
Minor Street	NCC Kiernan Avenue

Turn Movement Volumes

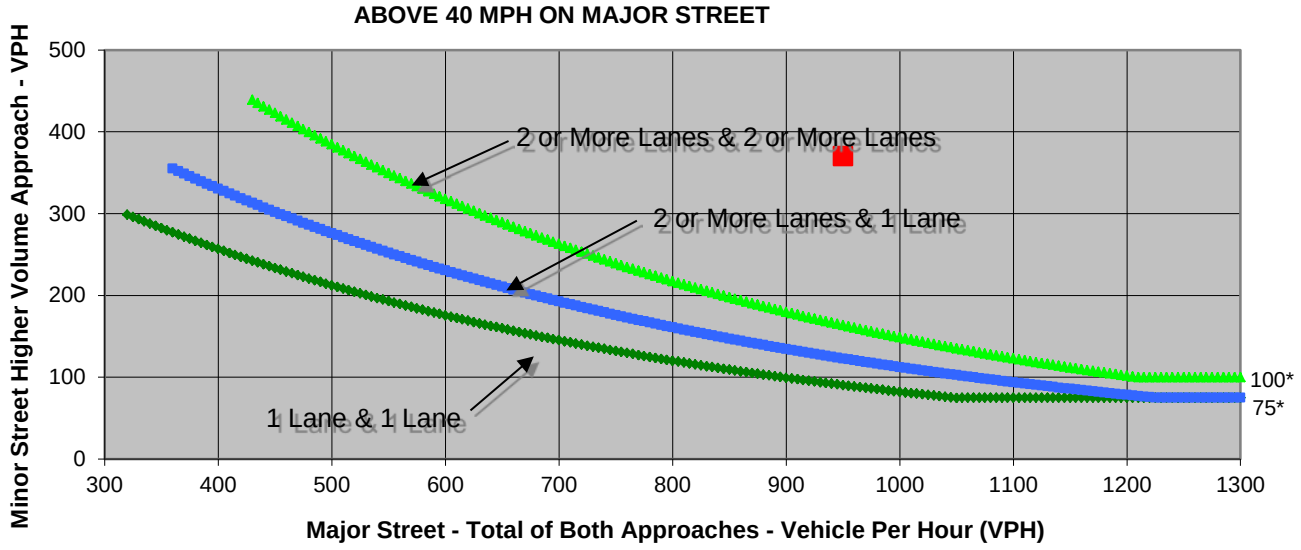
	NB	SB	EB	WB
Left	440	30	80	370
Through	190	290		
Right				
Total	630	320	80	370

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	NCC Kiernan Avenue	
Number of Approach Lanes	**4**	**5**	**YES**
Traffic Volume (VPH) *	**950**	**370**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Coffee Road
Minor Street	NCC Kiernan Avenue

Turn Movement Volumes

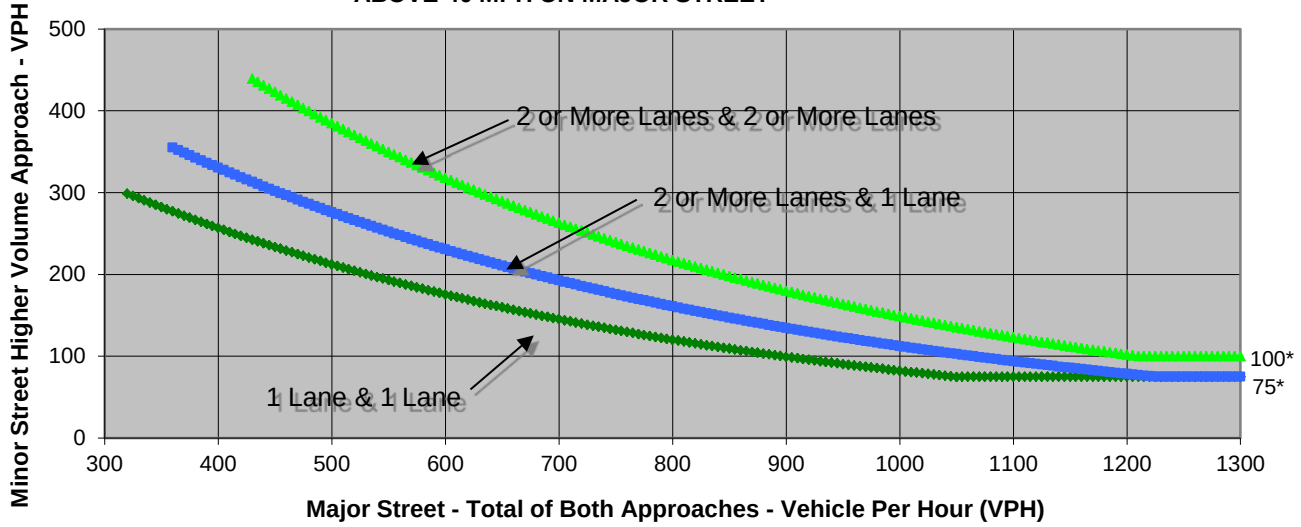
	NB	SB	EB	WB
Left	280	50	700	370
Through	260	220		
Right				
Total	540	270	700	370

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	NCC Kiernan Avenue	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**810**	**700**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Coffee Road
Minor Street	Kiernan Avenue

Turn Movement Volumes

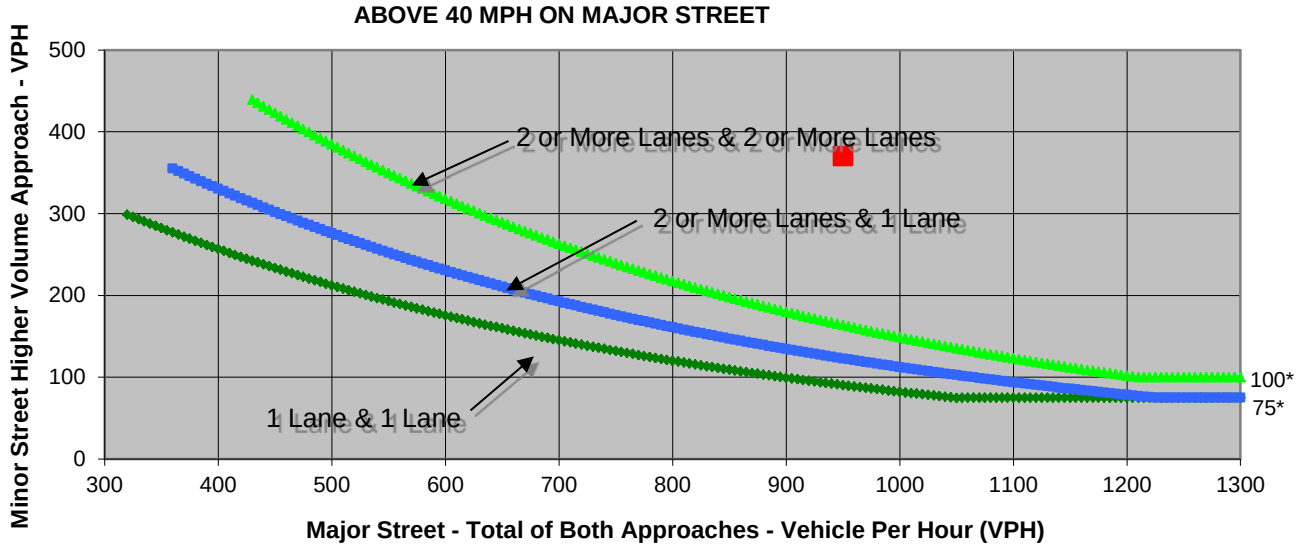
	NB	SB	EB	WB
Left	440	30	90	370
Through	190	290		
Right				
Total	630	320	90	370

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Kiernan Avenue	
Number of Approach Lanes	**4**	**3**	**YES**
Traffic Volume (VPH) *	**950**	**370**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Coffee Road
Minor Street	Kiernan Avenue

Turn Movement Volumes

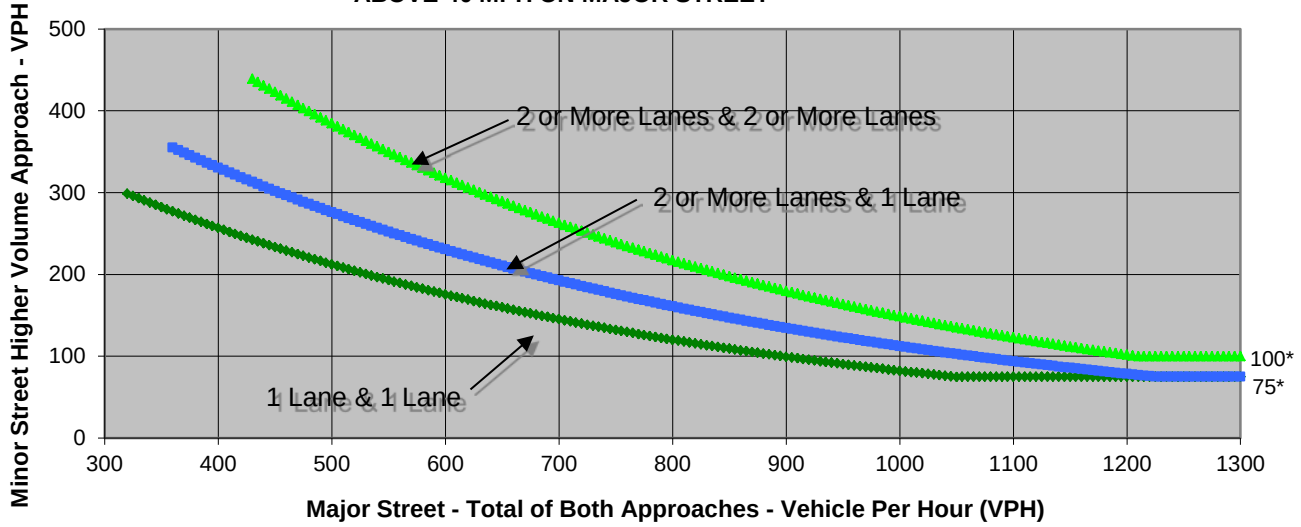
	NB	SB	EB	WB
Left	280	50	710	370
Through	260	220		
Right				
Total	540	270	710	370

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	Kiernan Avenue	
Number of Approach Lanes	**4**	**3**	**YES**
Traffic Volume (VPH) *	**810**	**710**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Coffee Road
Minor Street	NCC Kiernan Avenue

Turn Movement Volumes

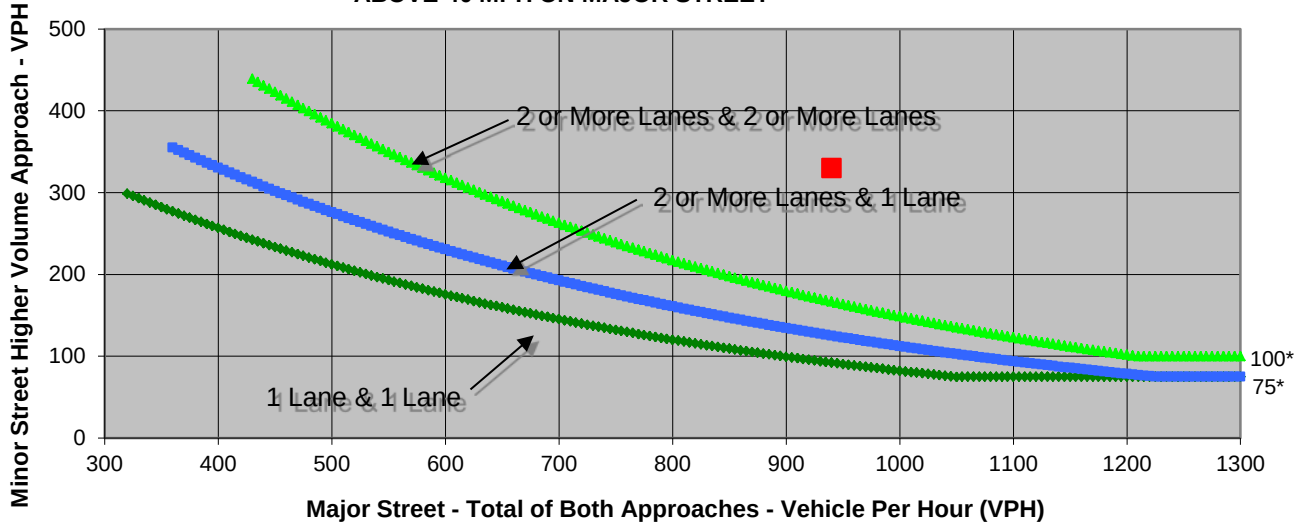
	NB	SB	EB	WB
Left	420	30	80	330
Through	200	290		
Right				
Total	620	320	80	330

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	NCC Kiernan Avenue	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**940**	**330**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	Coffee Road
Minor Street	NCC Kiernan Avenue

Turn Movement Volumes

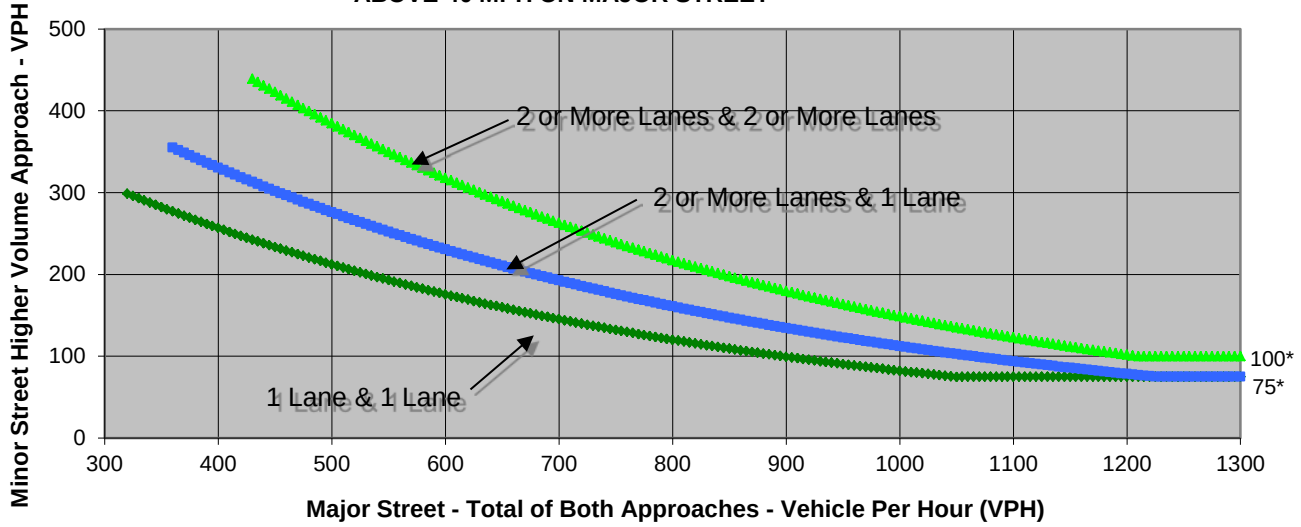
	NB	SB	EB	WB
Left	300	50	700	360
Through	260	280		
Right				
Total	560	330	700	360

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	NCC Kiernan Avenue	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**890**	**700**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	Coffee Road
Minor Street	NCC SPUI

Turn Movement Volumes

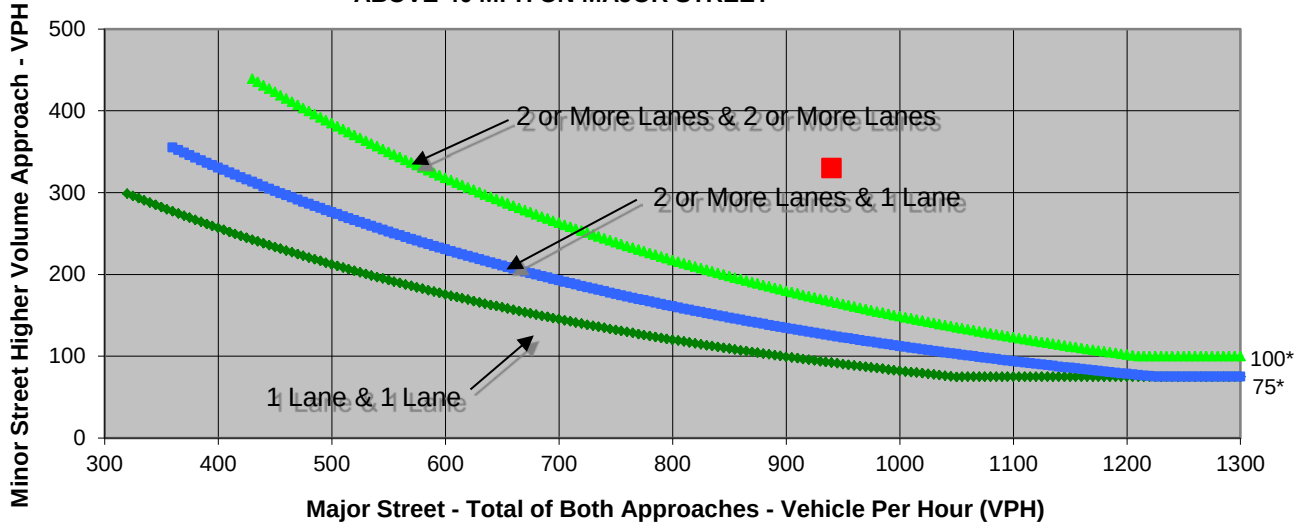
	NB	SB	EB	WB
Left	420	30	90	330
Through	200	290		
Right				
Total	620	320	90	330

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**940**	**330**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	Coffee Road
Minor Street	NCC SPUI

Turn Movement Volumes

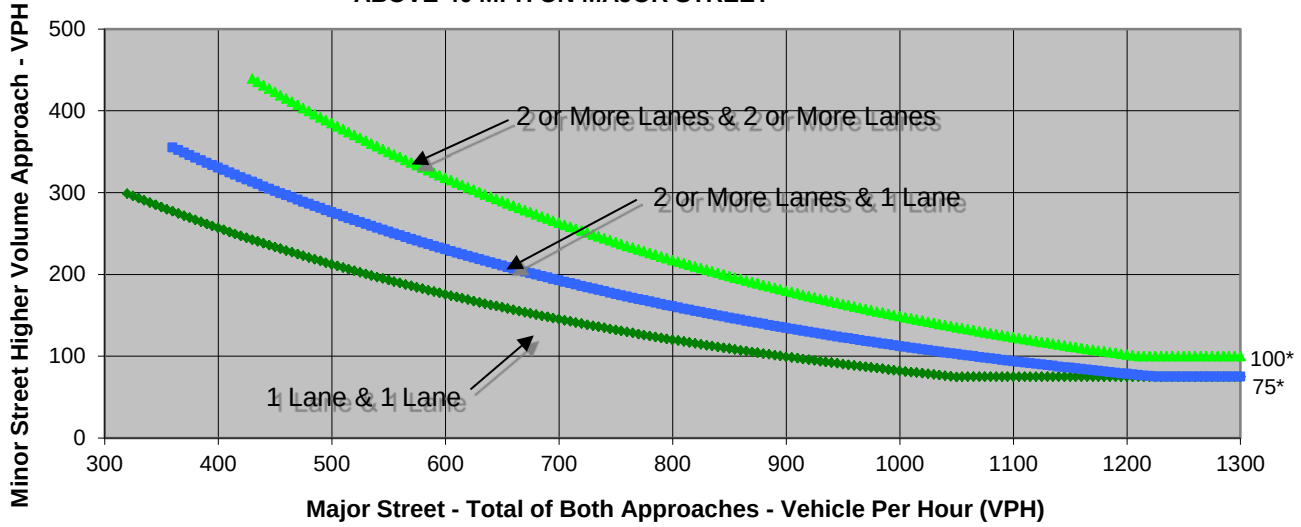
	NB	SB	EB	WB
Left	300	50	710	350
Through	260	290		
Right				
Total	560	340	710	350

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Coffee Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**900**	**710**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 No Project
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

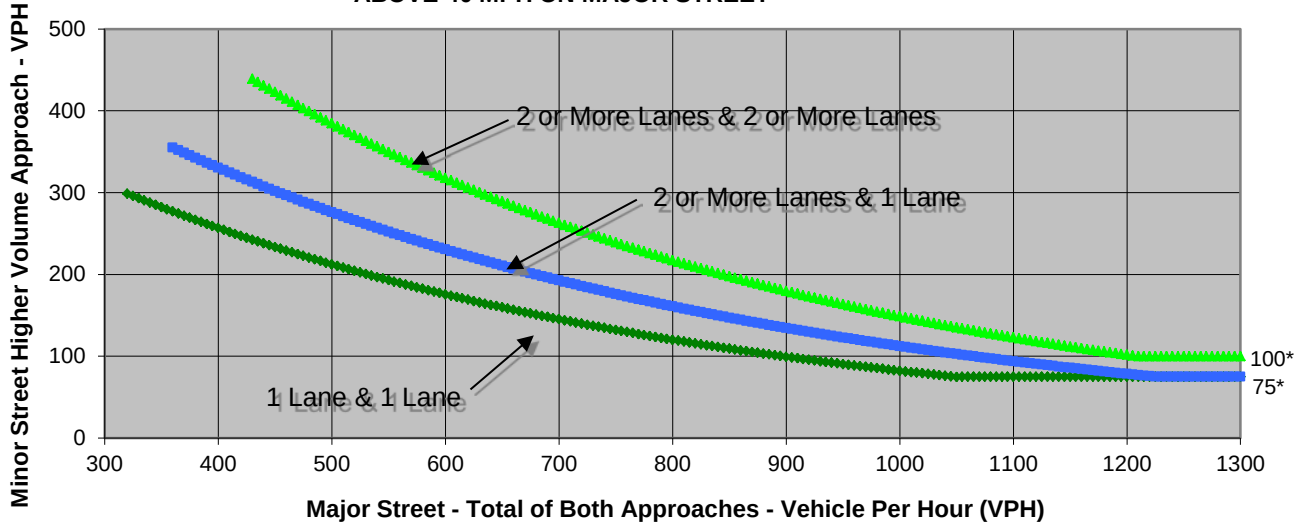
	NB	SB	EB	WB
Left	220	40	50	360
Through	90	110	600	1,300
Right	170	60	460	30
Total	480	210	1,110	1,690

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**6**	**3**	**YES**
Traffic Volume (VPH) *	**2,800**	**480**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 No Project
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

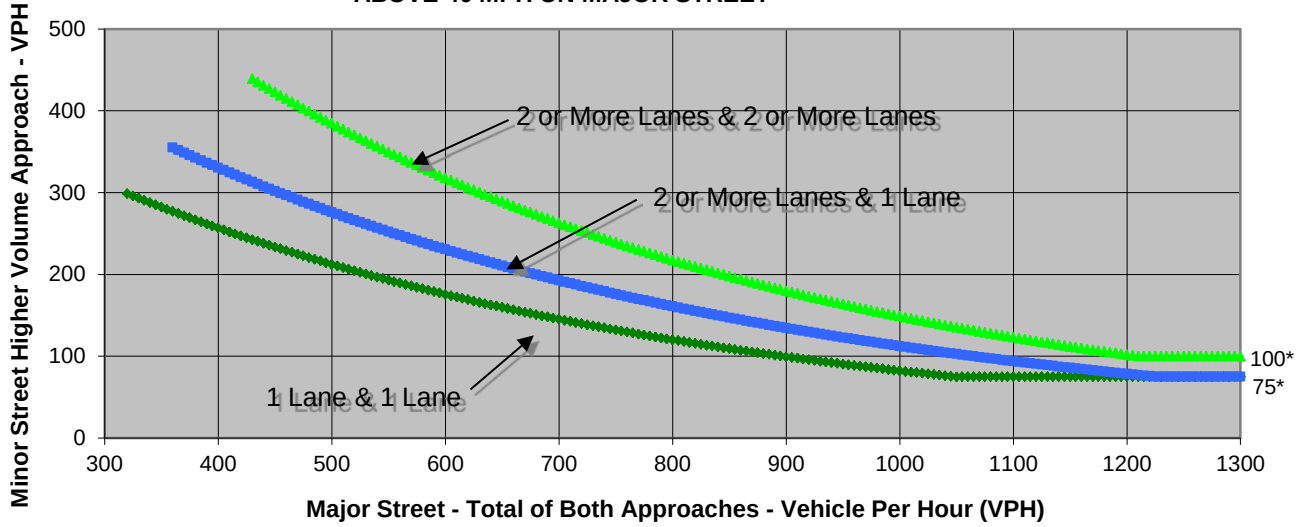
	NB	SB	EB	WB
Left	630	130	80	380
Through	220	210	1,270	1,090
Right	360	40	430	50
Total	1,210	380	1,780	1,520

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**6**	**3**	**YES**
Traffic Volume (VPH) *	**3,300**	**1,210**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alternative 1A
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

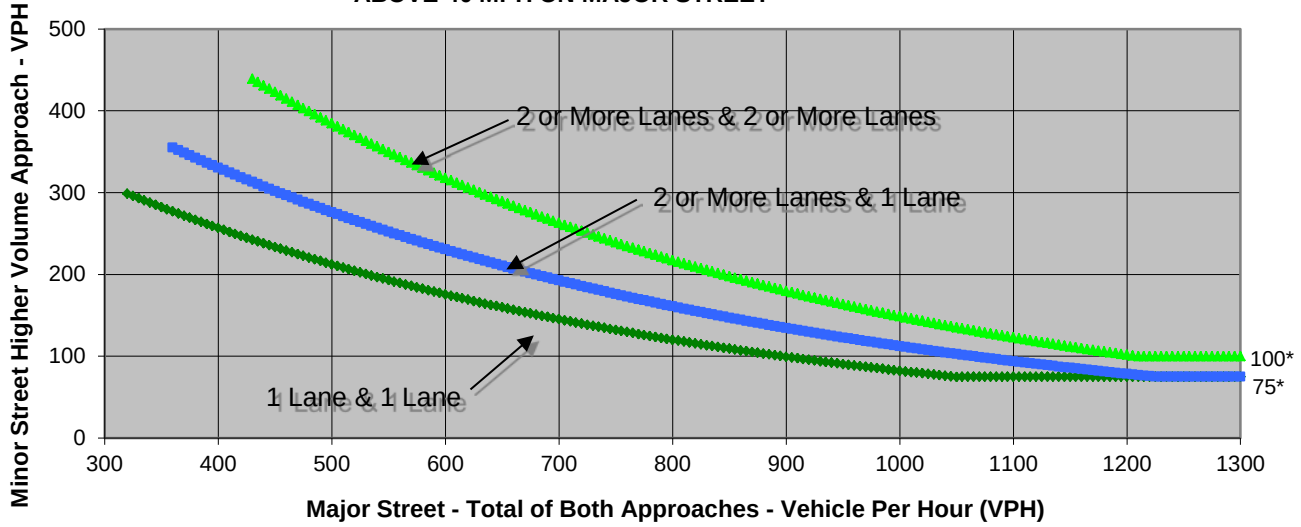
	NB	SB	EB	WB
Left	170	40	50	660
Through	90	110	790	1,780
Right	170	60	420	50
Total	430	210	1,260	2,490

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**6**	**YES**
Traffic Volume (VPH) *	**3,750**	**430**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alternative 1A
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

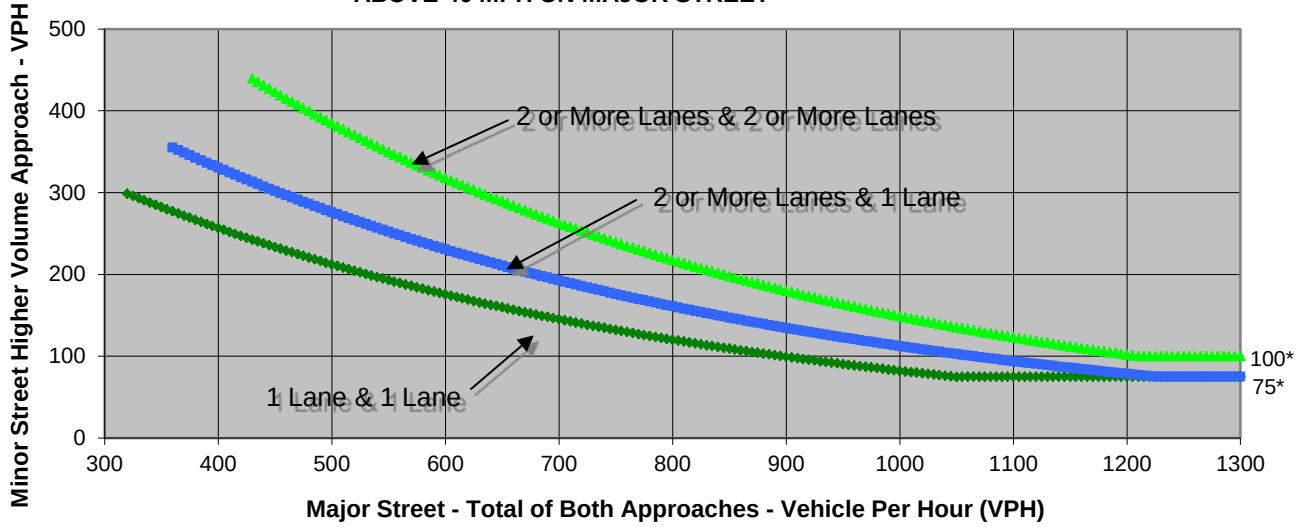
	NB	SB	EB	WB
Left	600	40	30	600
Through	220	110	1,620	1,420
Right	820	60	360	90
Total	1,640	210	2,010	2,110

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**5**	**YES**
Traffic Volume (VPH) *	**4,120**	**1,640**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alternative 1B
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

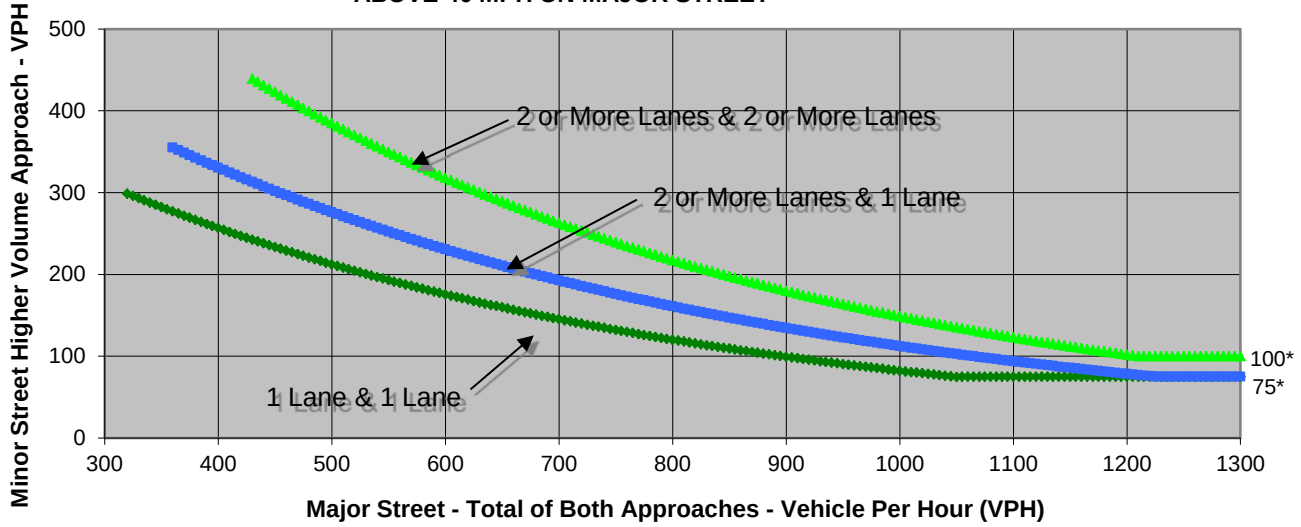
	NB	SB	EB	WB
Left	170	40	50	660
Through	90	110	790	1,780
Right	170	60	420	50
Total	430	210	1,260	2,490

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**5**	**YES**
Traffic Volume (VPH) *	**3,750**	**430**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alternative 1B
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

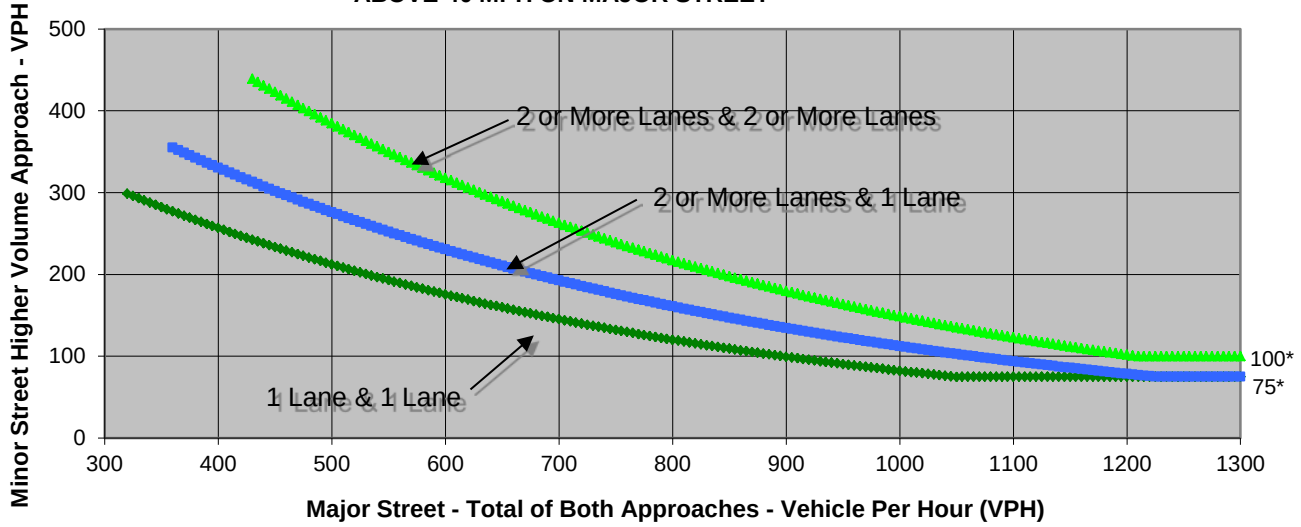
	NB	SB	EB	WB
Left	600	130	30	600
Through	220	210	1,620	1,420
Right	820	40	360	90
Total	1,640	380	2,010	2,110

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**5**	**YES**
Traffic Volume (VPH) *	**4,120**	**1,640**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alternative 2A
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

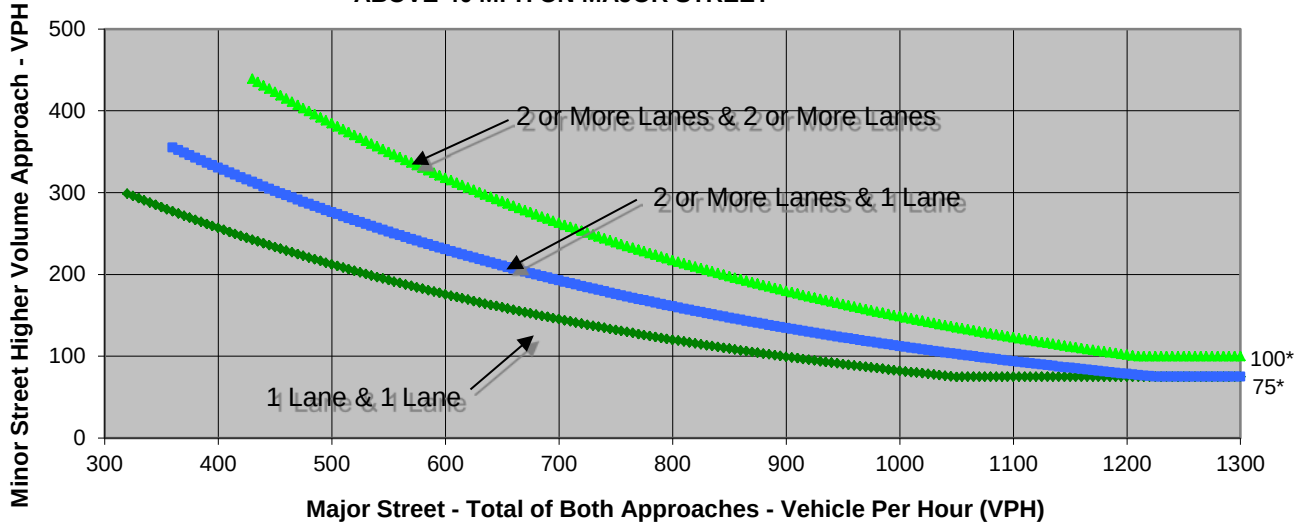
	NB	SB	EB	WB
Left	160	40	50	610
Through	90	110	710	1,740
Right	170	60	460	50
Total	420	210	1,220	2,400

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**5**	**YES**
Traffic Volume (VPH) *	**3,620**	**420**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alternative 2A
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

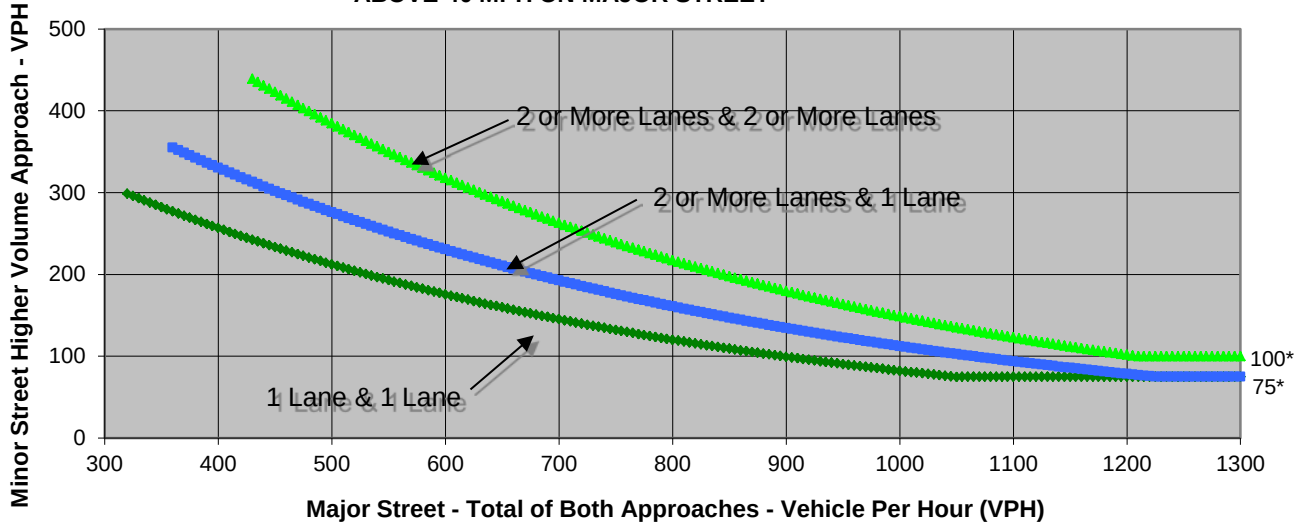
	NB	SB	EB	WB
Left	580	160	30	530
Through	220	210	1,570	1,350
Right	860	40	320	60
Total	1,660	410	1,920	1,940

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**5**	**YES**
Traffic Volume (VPH) *	**3,860**	**1,660**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alternative 2B
Peak Hour	AM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

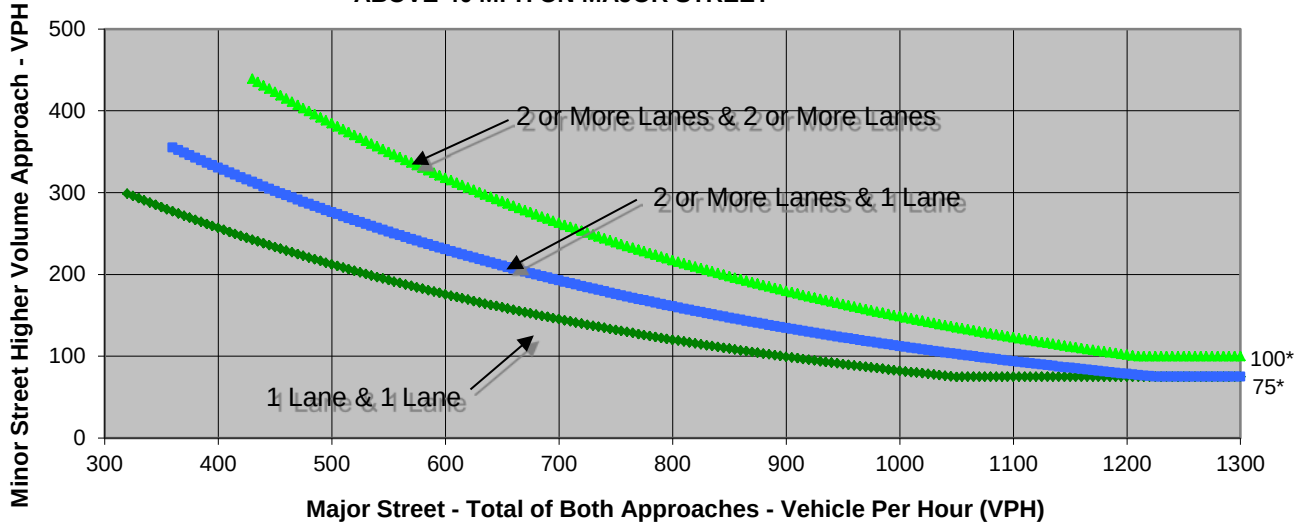
	NB	SB	EB	WB
Left	160	40	50	610
Through	90	110	710	1,740
Right	170	60	460	50
Total	420	210	1,220	2,400

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**5**	**YES**
Traffic Volume (VPH) *	**3,620**	**420**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alternative 2B
Peak Hour	PM

Major Street	Kiernan Avenue
Minor Street	Tully Road

Turn Movement Volumes

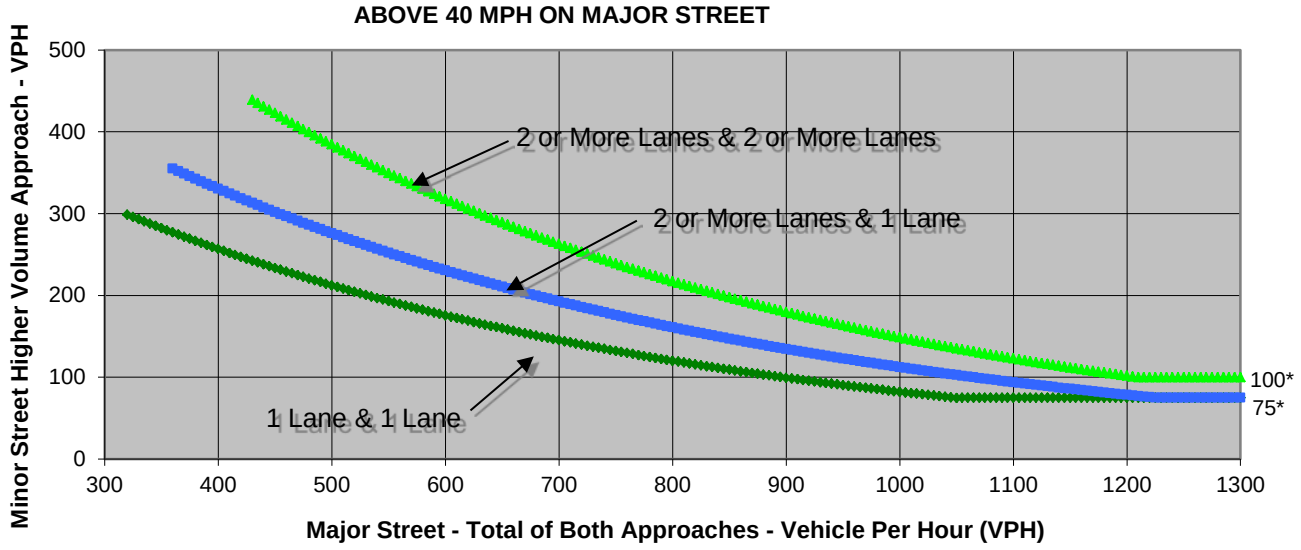
	NB	SB	EB	WB
Left	580	160	30	530
Through	220	210	1,570	1,350
Right	860	40	320	60
Total	1,660	410	1,920	1,940

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Kiernan Avenue	Tully Road	
Number of Approach Lanes	**7**	**5**	**YES**
Traffic Volume (VPH) *	**3,860**	**1,660**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

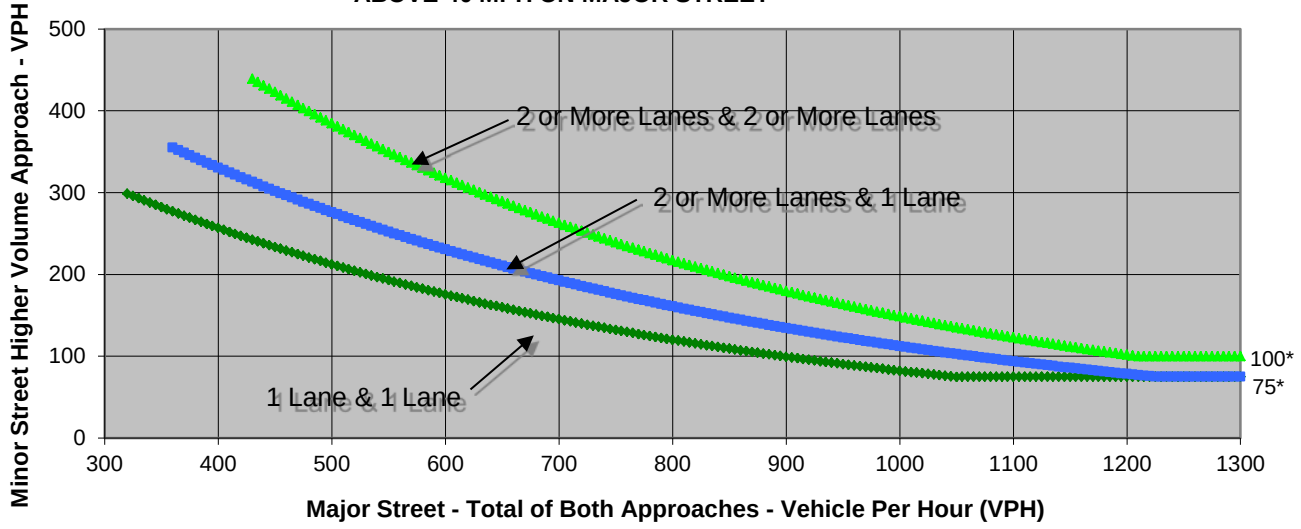
	NB	SB	EB	WB
Left	40	140	30	120
Through	460	800	10	10
Right	100	60	30	190
Total	600	1,000	70	320

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,600**	**320**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

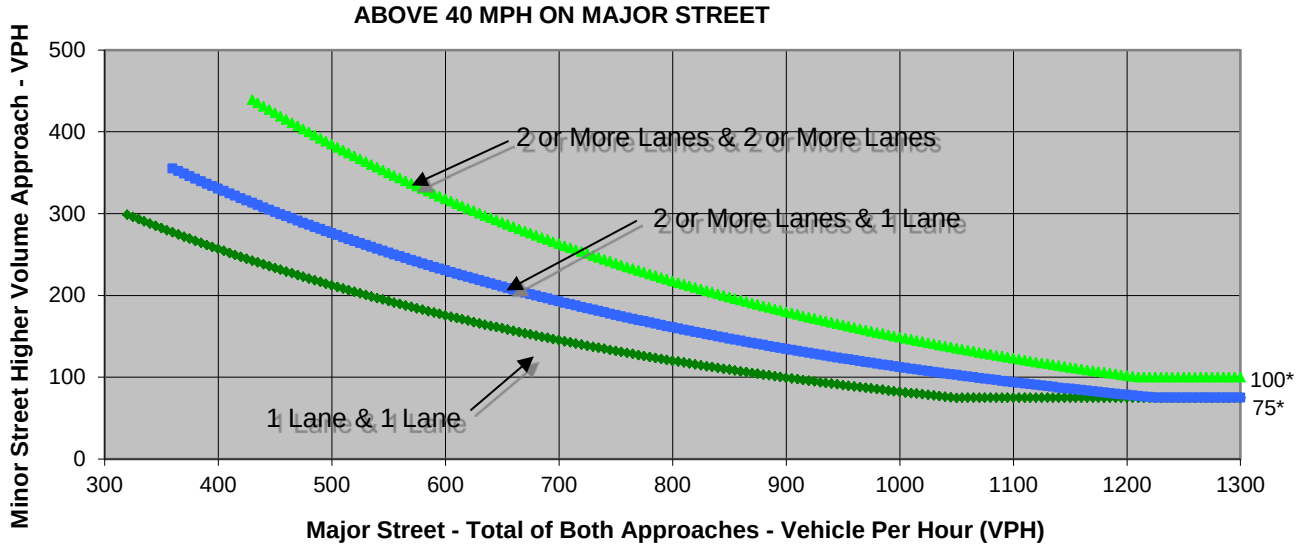
	NB	SB	EB	WB
Left	50	290	100	190
Through	1,380	870	10	10
Right	200	70	90	290
Total	1,630	1,230	200	490

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**2,860**	**490**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

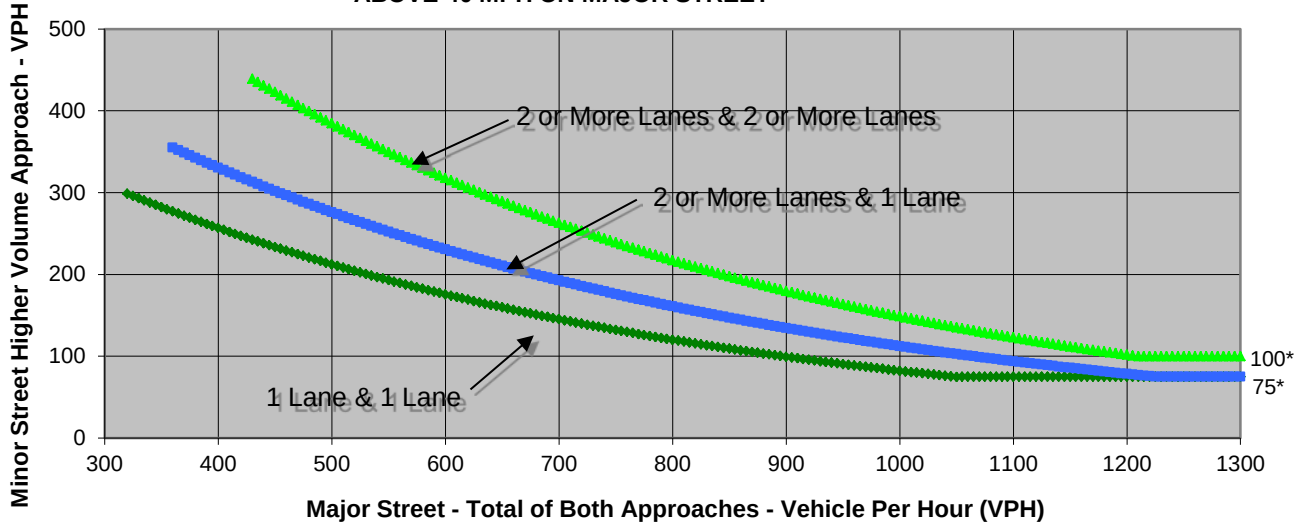
	NB	SB	EB	WB
Left	40	140	30	120
Through	460	800	10	10
Right	100	60	30	190
Total	600	1,000	70	320

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,600**	**320**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

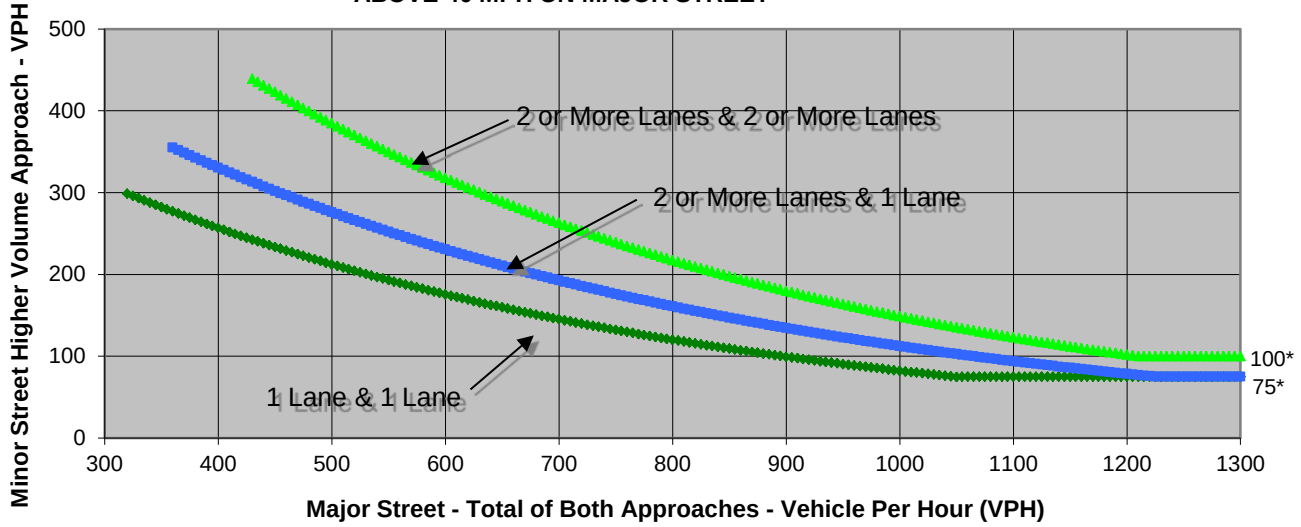
	NB	SB	EB	WB
Left	50	290	100	190
Through	1,380	870	10	10
Right	200	70	90	290
Total	1,630	1,230	200	490

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**2,860**	**490**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

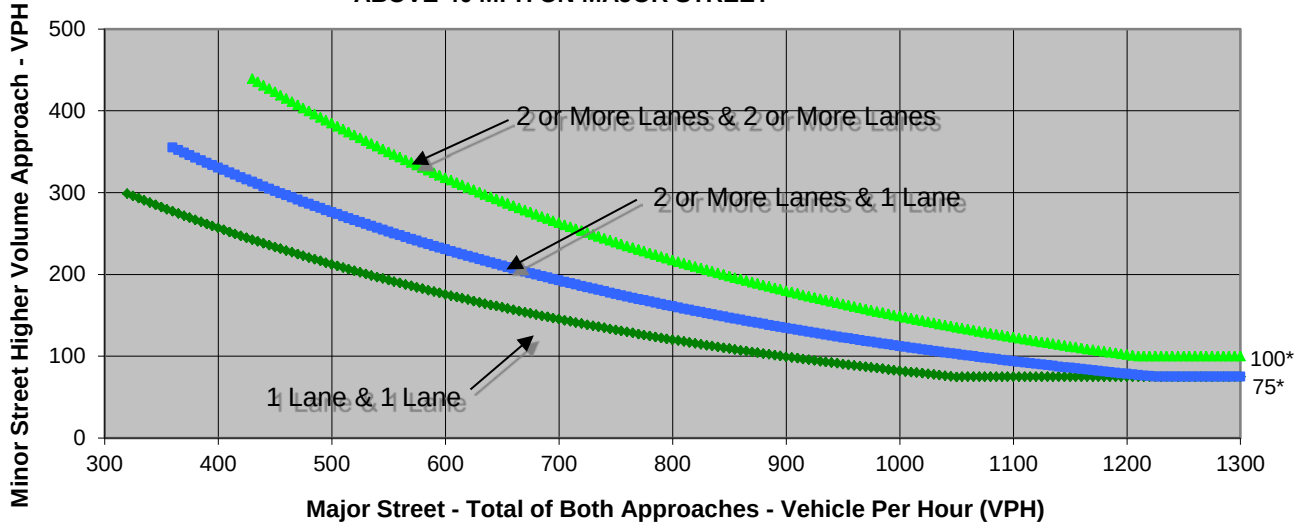
	NB	SB	EB	WB
Left	40	140	30	120
Through	480	770	10	10
Right	100	60	30	190
Total	620	970	70	320

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,590**	**320**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

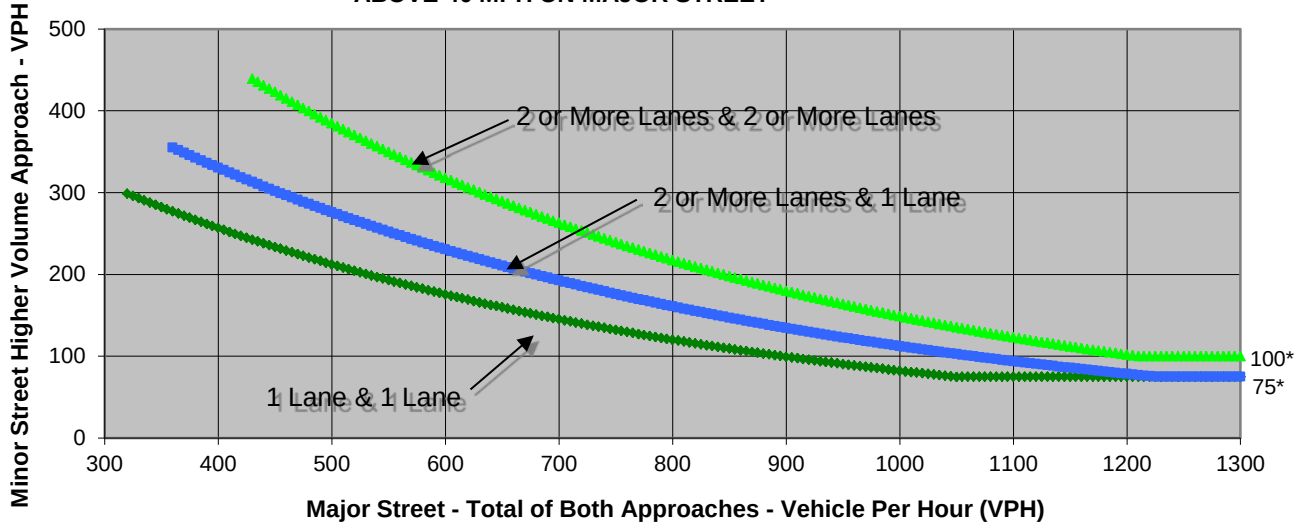
	NB	SB	EB	WB
Left	50	290	100	190
Through	1,170	790	10	10
Right	200	70	90	290
Total	1,420	1,150	200	490

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**2,570**	**490**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

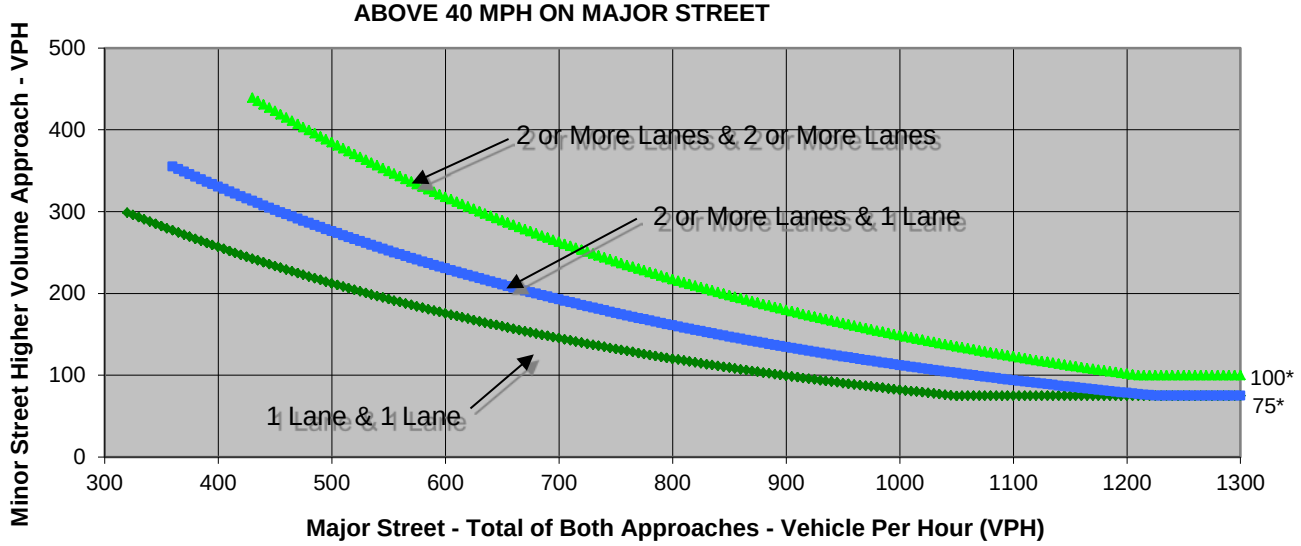
	NB	SB	EB	WB
Left	40	140	30	120
Through	480	770	10	10
Right	100	60	30	190
Total	620	970	70	320

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**1,590**	**320**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	McHenry Avenue
Minor Street	Galaxy Way

Turn Movement Volumes

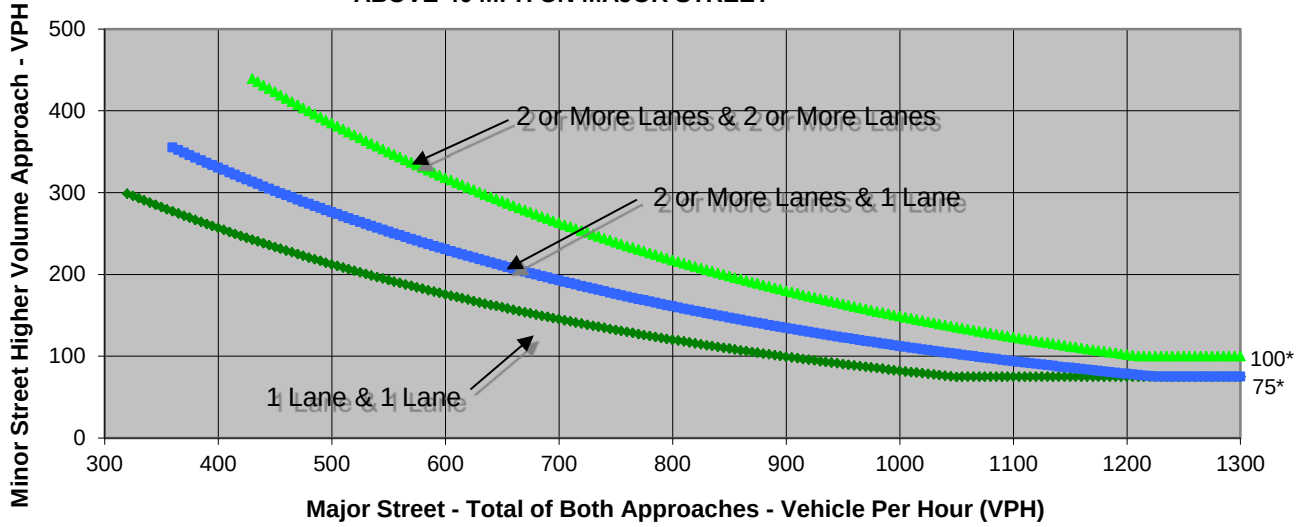
	NB	SB	EB	WB
Left	50	290	100	190
Through	1,170	790	10	10
Right	200	70	90	290
Total	1,420	1,150	200	490

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	McHenry Avenue	Galaxy Way	
Number of Approach Lanes	**5**	**2**	**YES**
Traffic Volume (VPH) *	**2,570**	**490**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	NCC
Minor Street	N Stearns Road

Turn Movement Volumes

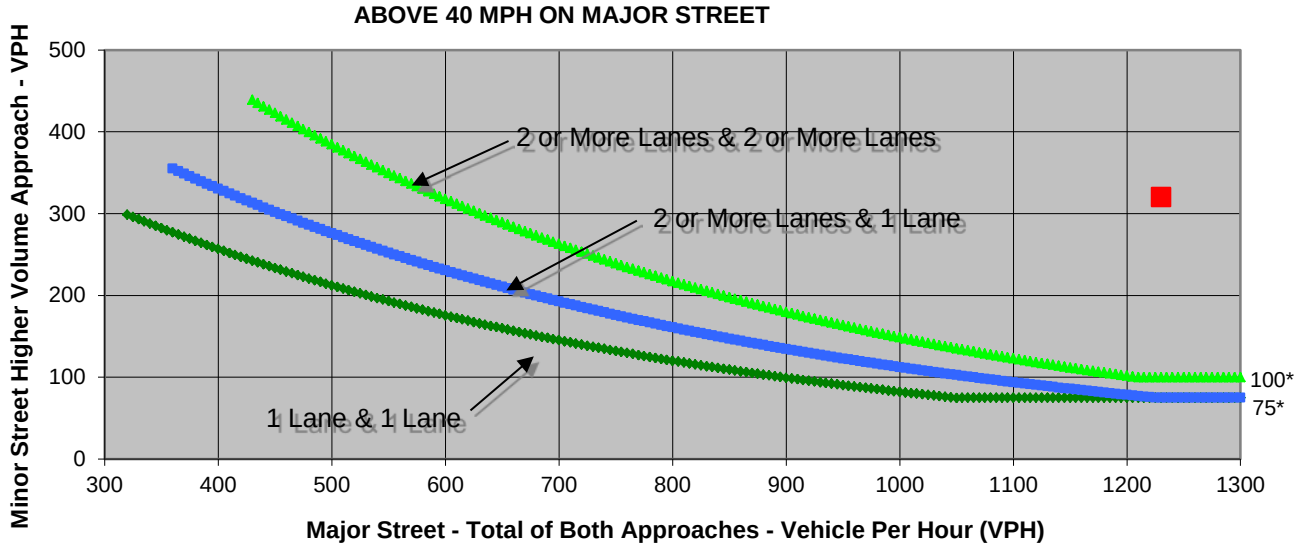
	NB	SB	EB	WB
Left	50	20	280	50
Through	10	10	350	480
Right	50	290	50	20
Total	110	320	680	550

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	N Stearns Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,230**	**320**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	NCC
Minor Street	N Stearns Road

Turn Movement Volumes

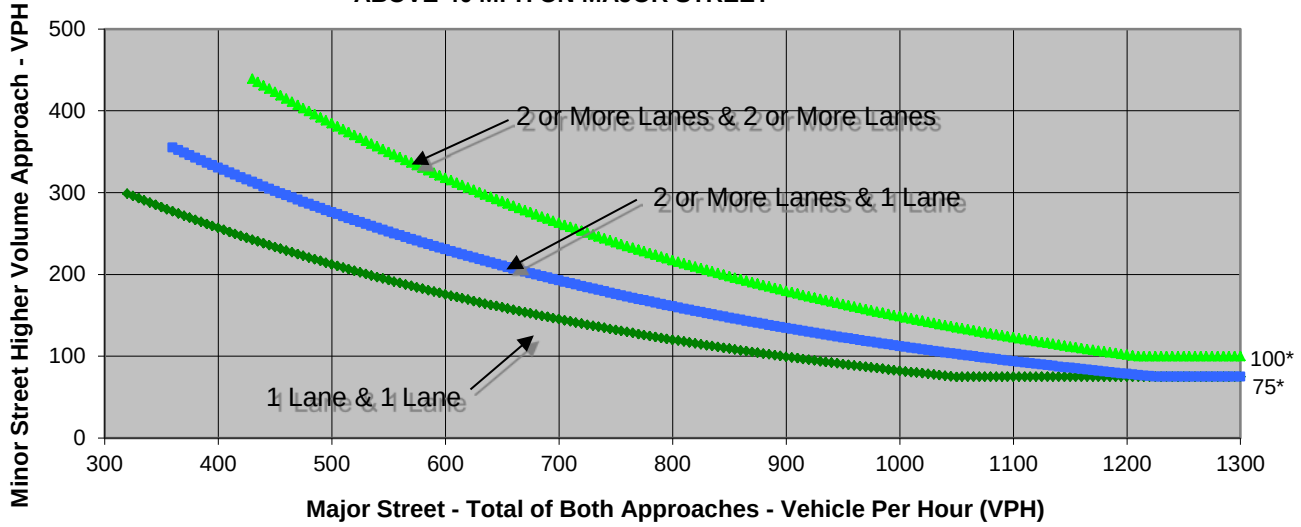
	NB	SB	EB	WB
Left	50	20	430	50
Through	10	10	570	390
Right	50	390	50	20
Total	110	420	1,050	460

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	N Stearns Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,510**	**420**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	NCC
Minor Street	N Stearns Road

Turn Movement Volumes

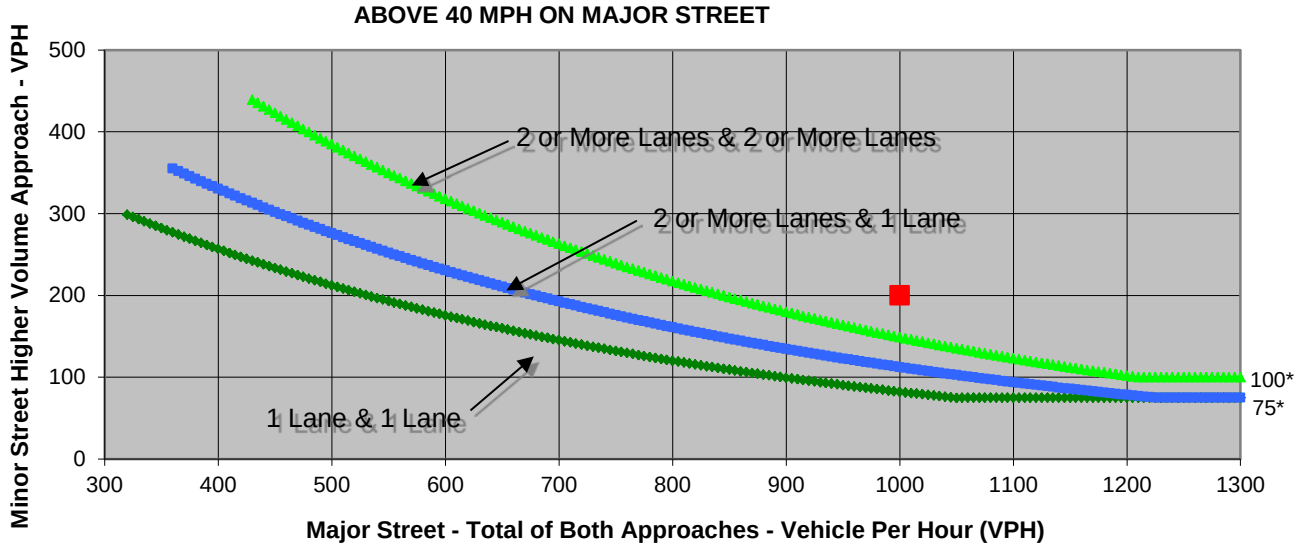
	NB	SB	EB	WB
Left	30	20	180	20
Through	20	20	360	400
Right	20	160	20	20
Total	70	200	560	440

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	N Stearns Road	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,000**	**200**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	NCC
Minor Street	N Stearns Road

Turn Movement Volumes

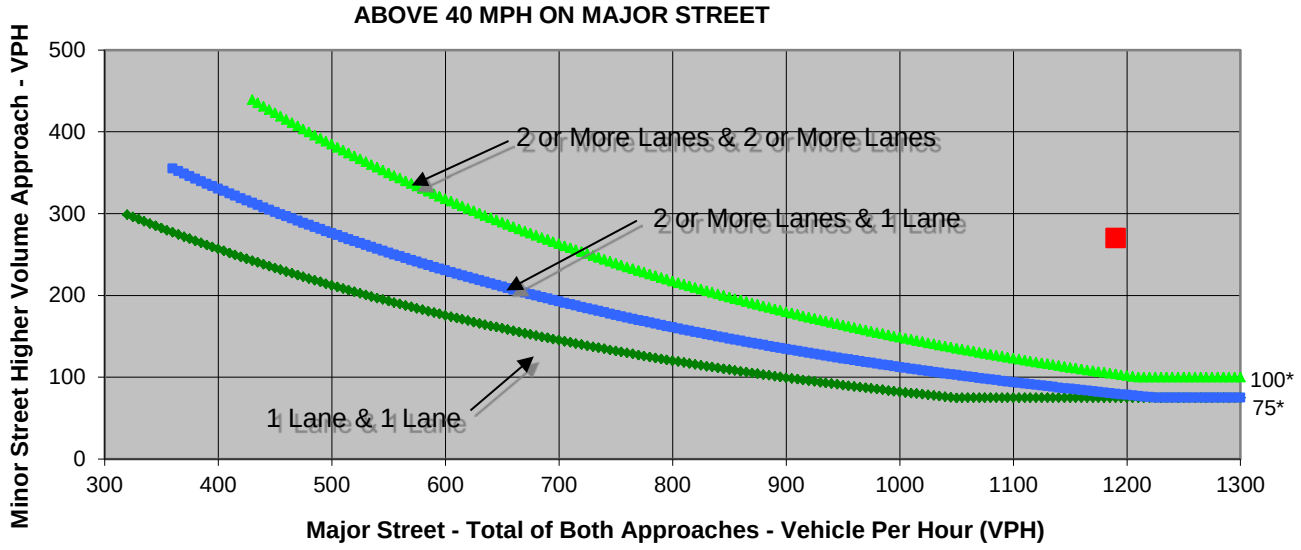
	NB	SB	EB	WB
Left	30	20	260	20
Through	20	20	490	360
Right	20	230	40	20
Total	70	270	790	400

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	N Stearns Road	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,190**	**270**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	NCC
Minor Street	N Stearns Road

Turn Movement Volumes

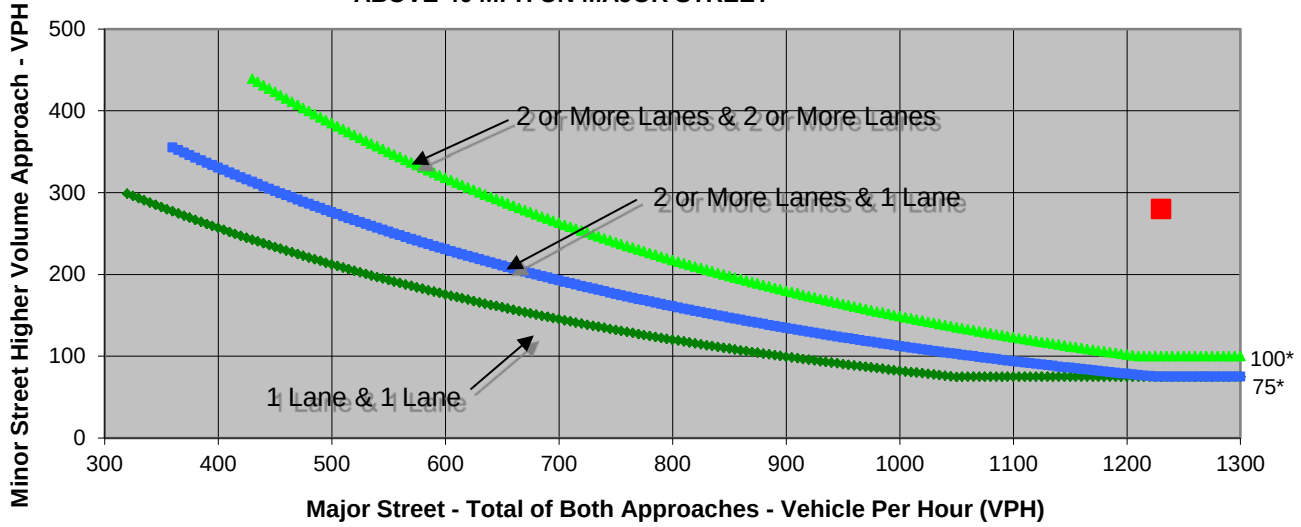
	NB	SB	EB	WB
Left	50	20	340	50
Through	10	10	340	430
Right	50	250	50	20
Total	110	280	730	500

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	N Stearns Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,230**	**280**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	NCC
Minor Street	N Stearns Road

Turn Movement Volumes

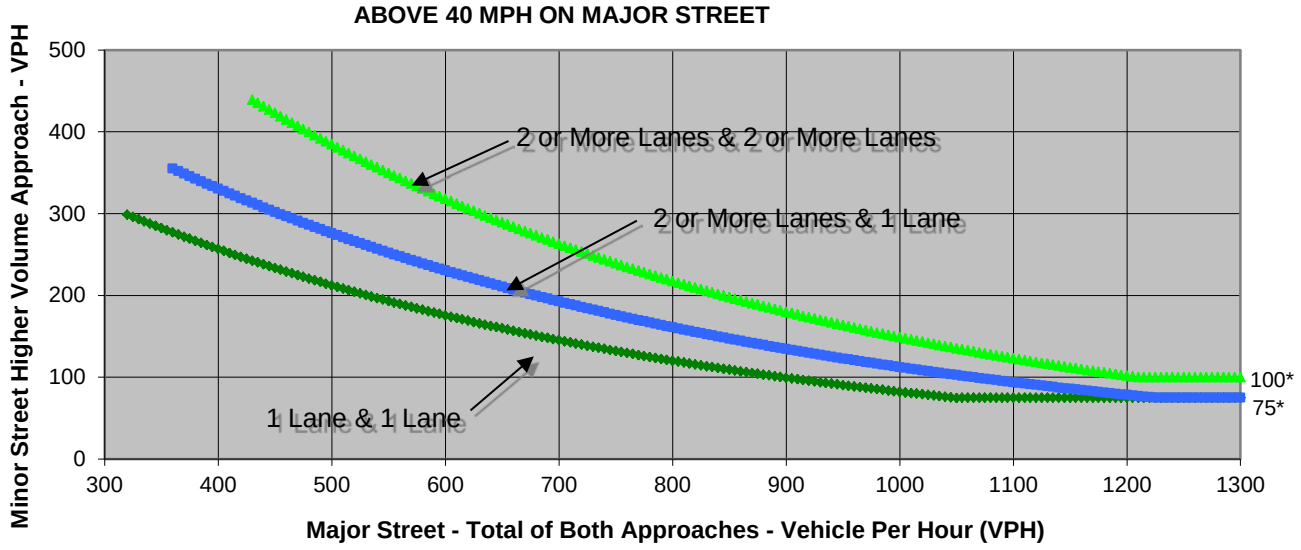
	NB	SB	EB	WB
Left	50	30	400	50
Through	10	10	530	360
Right	50	470	50	20
Total	110	510	980	430

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	N Stearns Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,410**	**510**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	NCC
Minor Street	New Access Road

Turn Movement Volumes

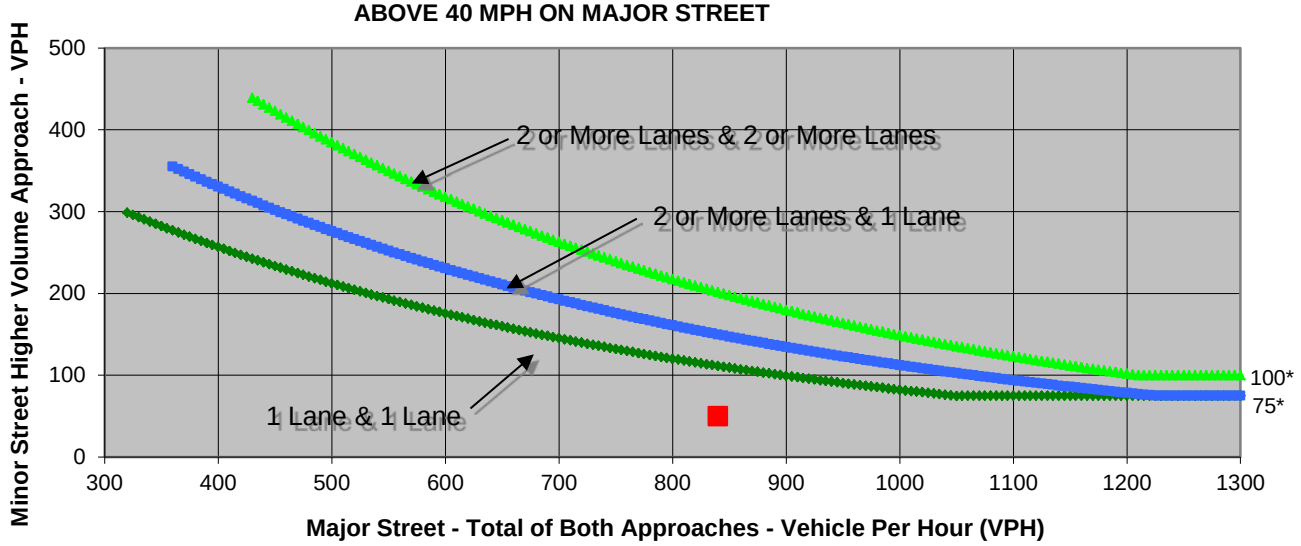
	NB	SB	EB	WB
Left	20	20	20	20
Through	360	400	10	10
Right	20	20	20	20
Total	400	440	50	50

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	New Access Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**840**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	NCC
Minor Street	New Access Road

Turn Movement Volumes

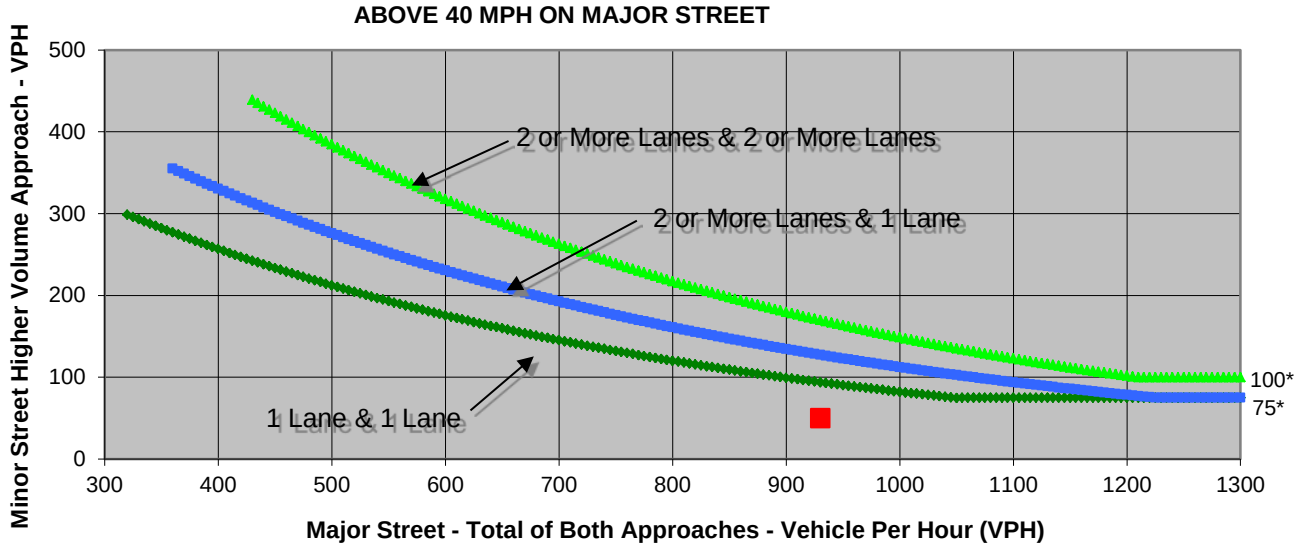
	NB	SB	EB	WB
Left	20	20	20	20
Through	490	360	10	10
Right	20	20	20	20
Total	530	400	50	50

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	New Access Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**930**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	NCC
Minor Street	New Access Road

Turn Movement Volumes

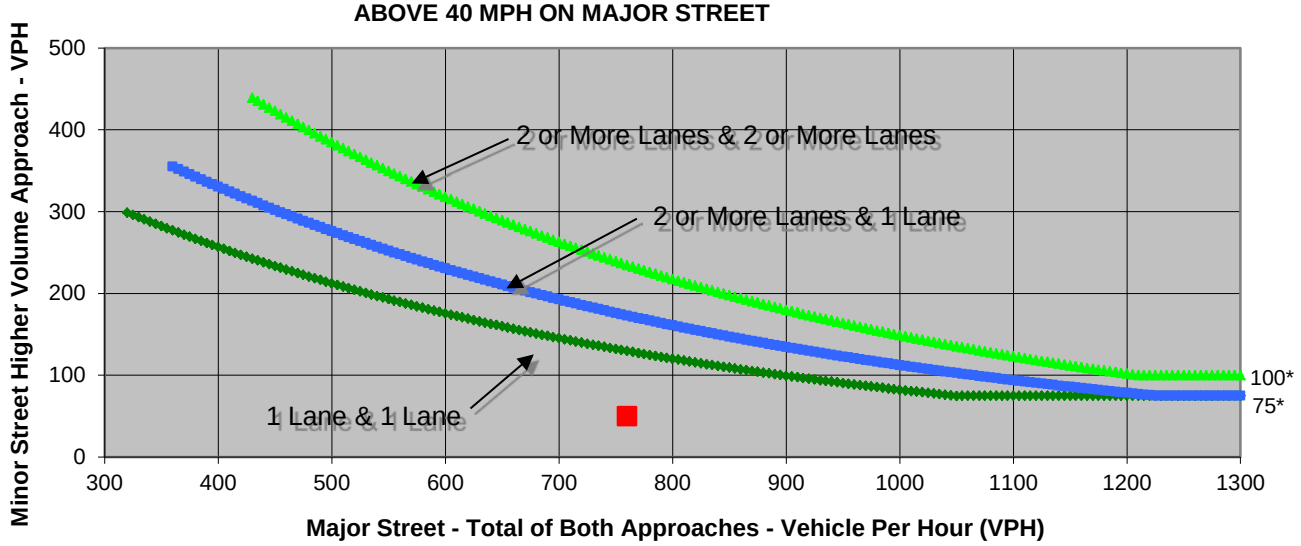
	NB	SB	EB	WB
Left	20	20	20	20
Through	320	360	10	10
Right	20	20	20	20
Total	360	400	50	50

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	New Access Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**760**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	NCC
Minor Street	New Access Road

Turn Movement Volumes

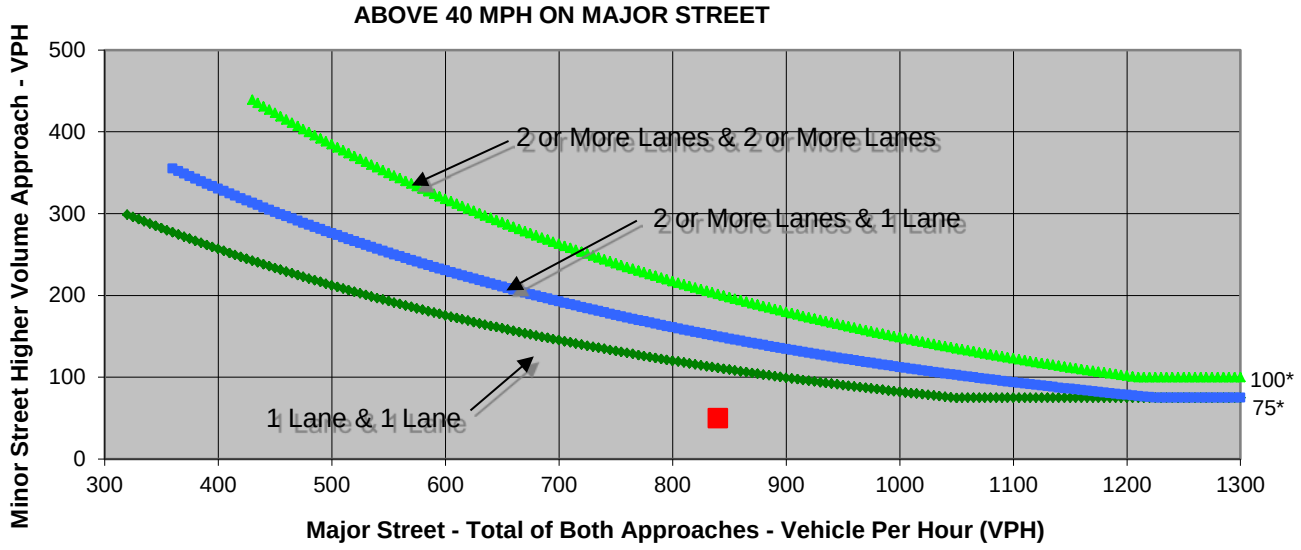
	NB	SB	EB	WB
Left	20	20	20	20
Through	430	330	10	10
Right	20	20	20	20
Total	470	370	50	50

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	New Access Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**840**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

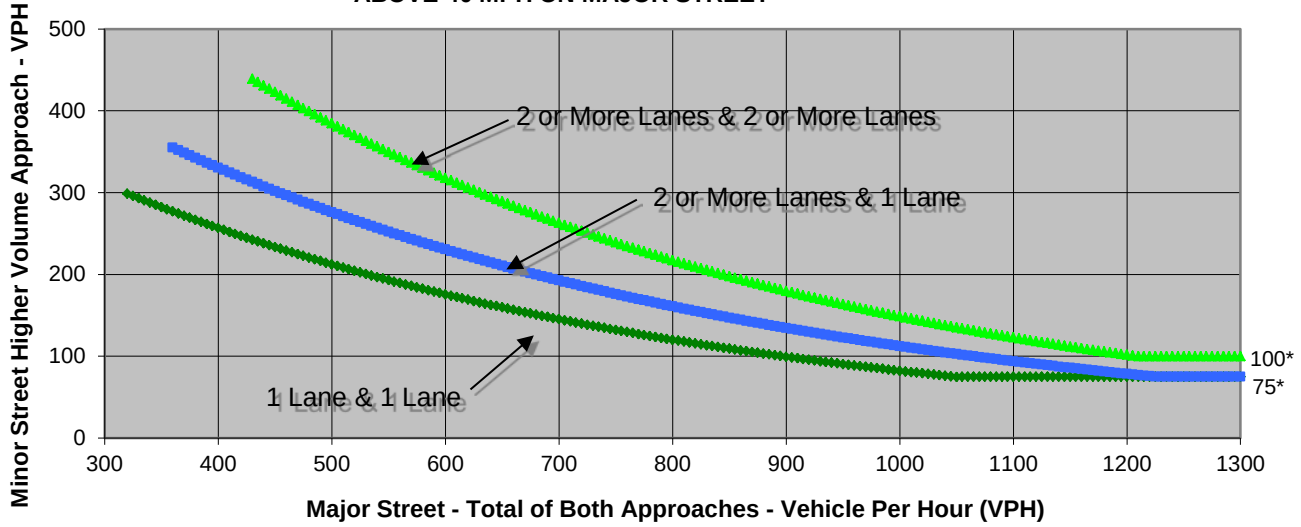
	NB	SB	EB	WB
Left	0	130	0	100
Through	710	890	0	0
Right	50	0	0	260
Total	760	1,020	0	360

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,780**	**360**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

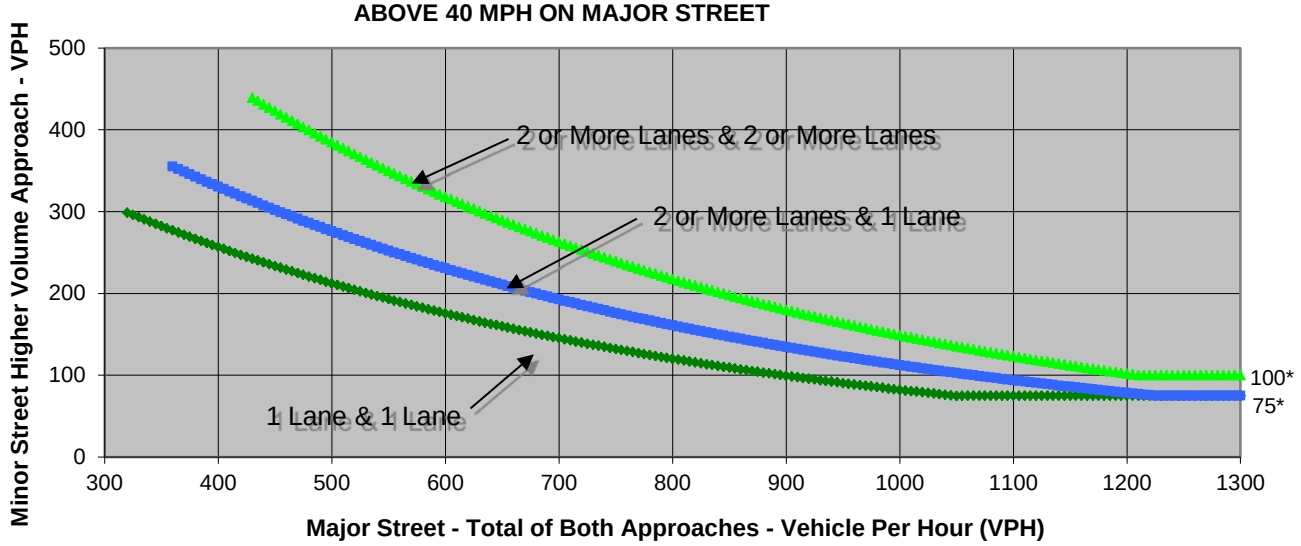
	NB	SB	EB	WB
Left	0	350		150
Through	1,100	1,230		0
Right	250	0		210
Total	1,350	1,580	0	360

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**2,930**	**360**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

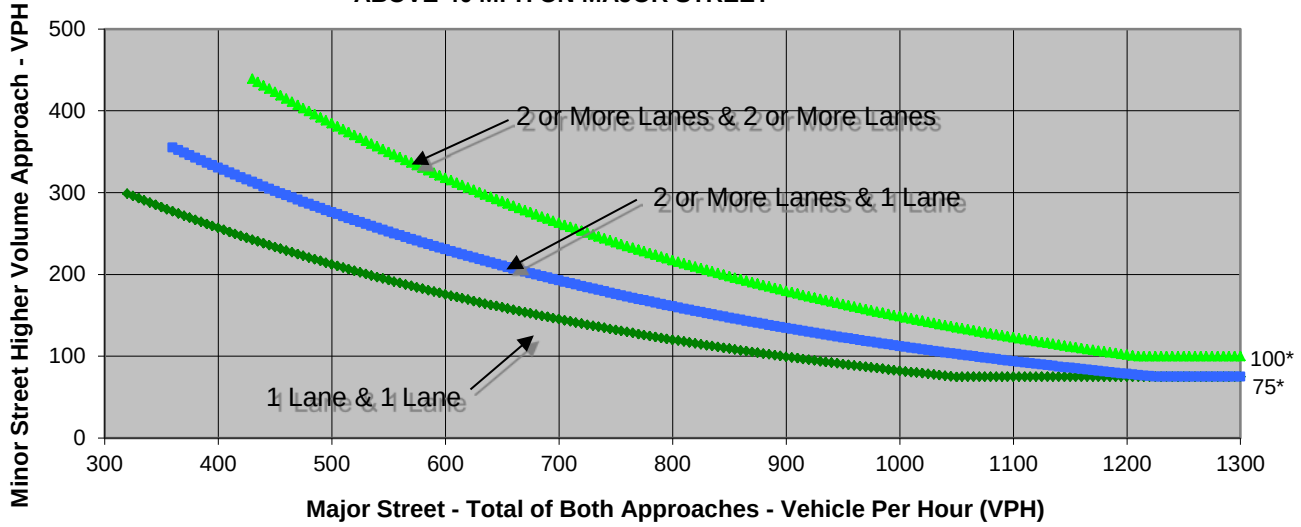
	NB	SB	EB	WB
Left	0	130	0	100
Through	710	860	0	0
Right	50	0	0	260
Total	760	990	0	360

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,750**	**360**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

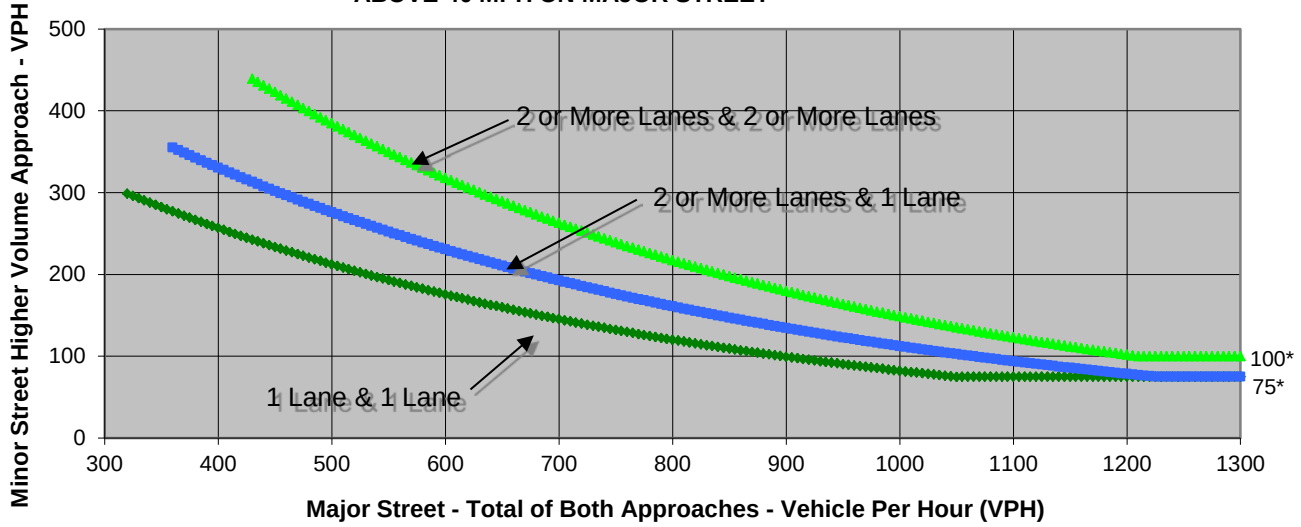
	NB	SB	EB	WB
Left	0	350	0	150
Through	1,100	1,230	0	0
Right	250	0	0	210
Total	1,350	1,580	0	360

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**2,930**	**360**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1	
Project	NCC			
Scenario	2042 Project Alt. 2A			
Peak Hour	AM			

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

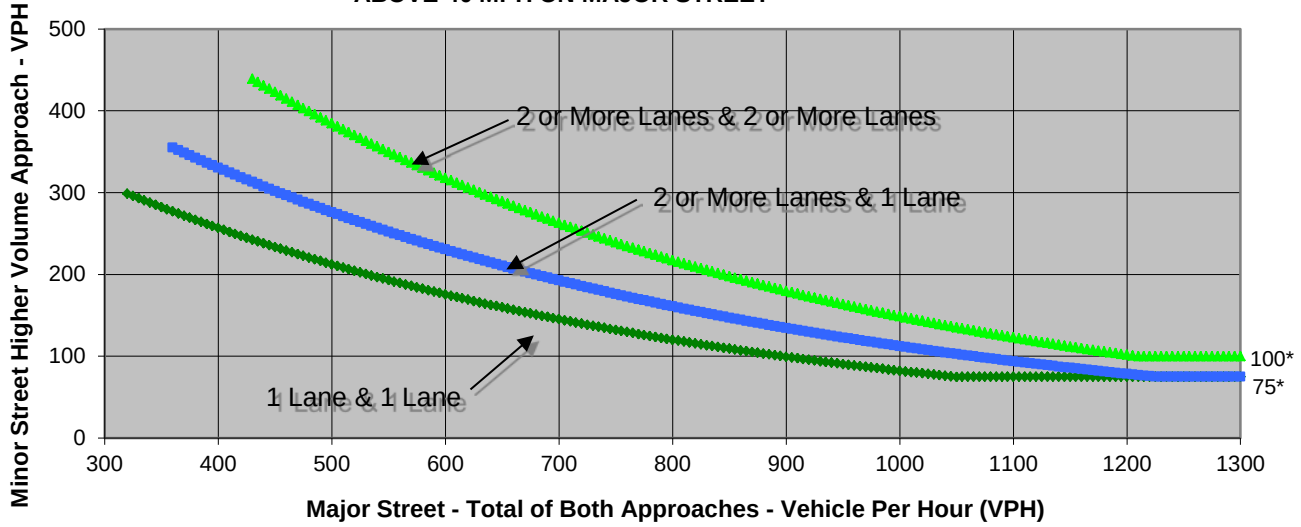
	NB	SB	EB	WB
Left		80	0	80
Through	580	650	0	0
Right	80	0	0	80
Total	660	730	0	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,390**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1	
Project	NCC			
Scenario	2042 Project Alt. 2A			
Peak Hour	PM			

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

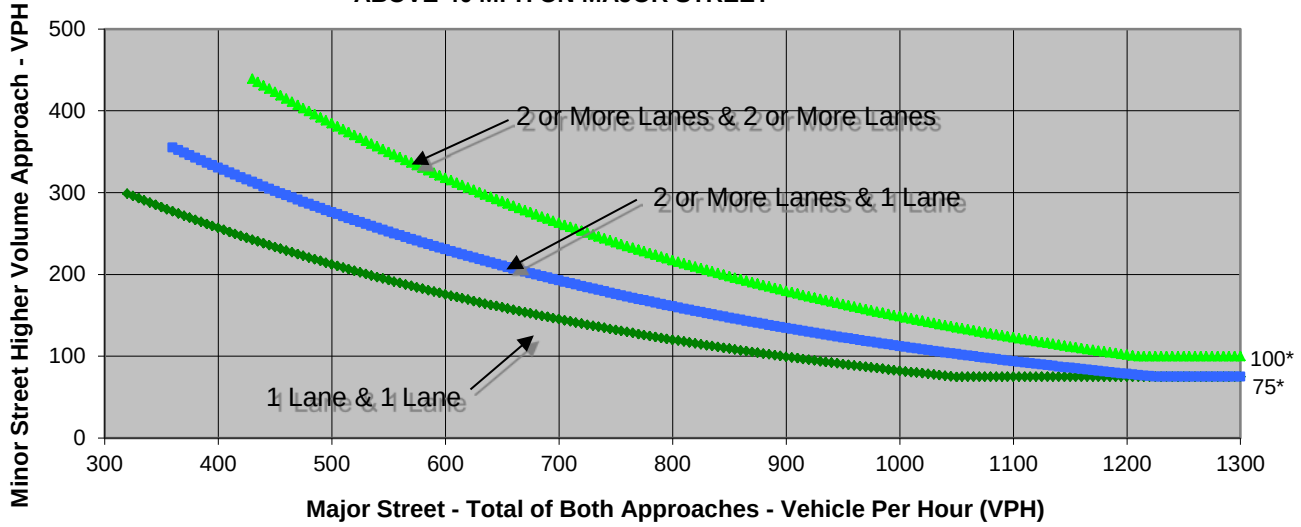
	NB	SB	EB	WB
Left		80	0	80
Through	830	1,010	0	0
Right	80	0	0	80
Total	910	1,090	0	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**2,000**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

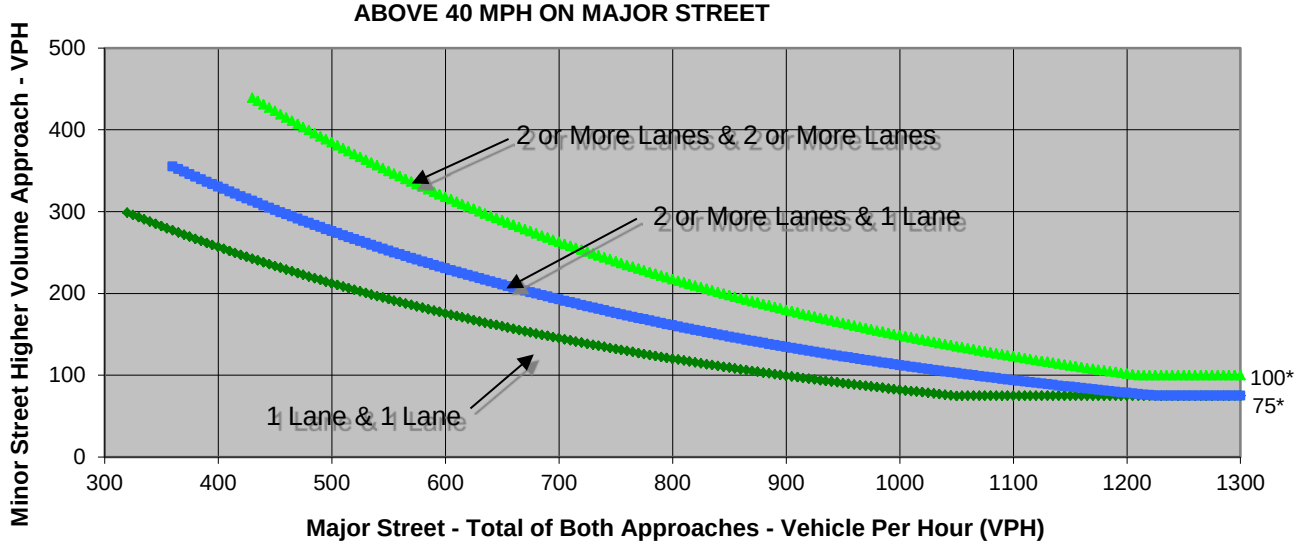
	NB	SB	EB	WB
Left		80	0	80
Through	560	680	0	0
Right	80	0	0	80
Total	640	760	0	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,400**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	Claus Road
Minor Street	New Claribel Road (S)

Turn Movement Volumes

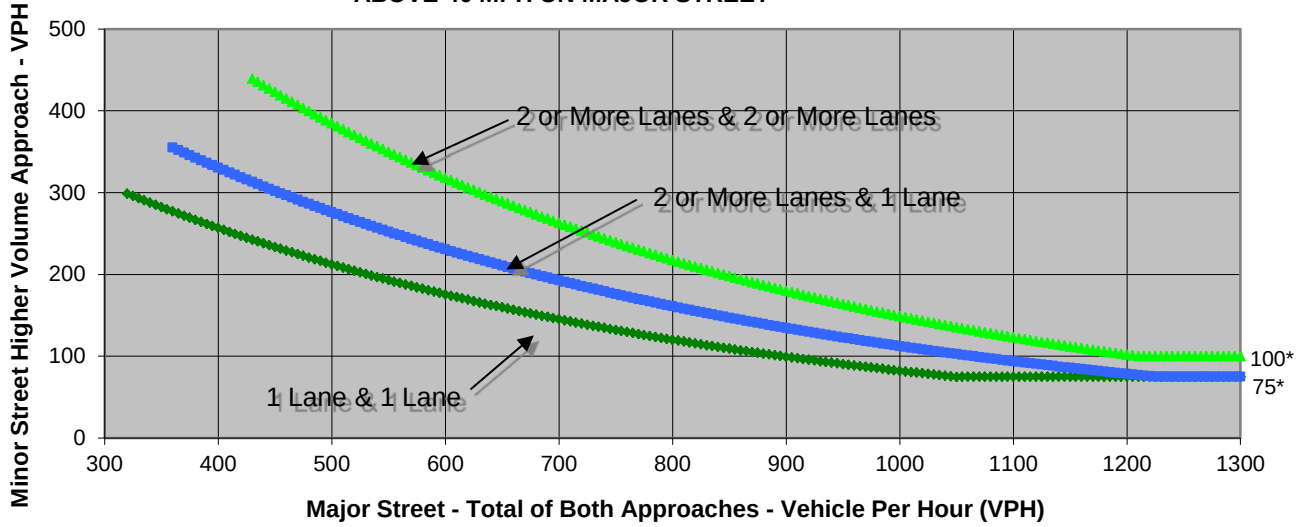
	NB	SB	EB	WB
Left		80	0	80
Through	830	1,010	0	0
Right	80	0	0	80
Total	910	1,090	0	160

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claus Road	New Claribel Road (S)	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**2,000**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

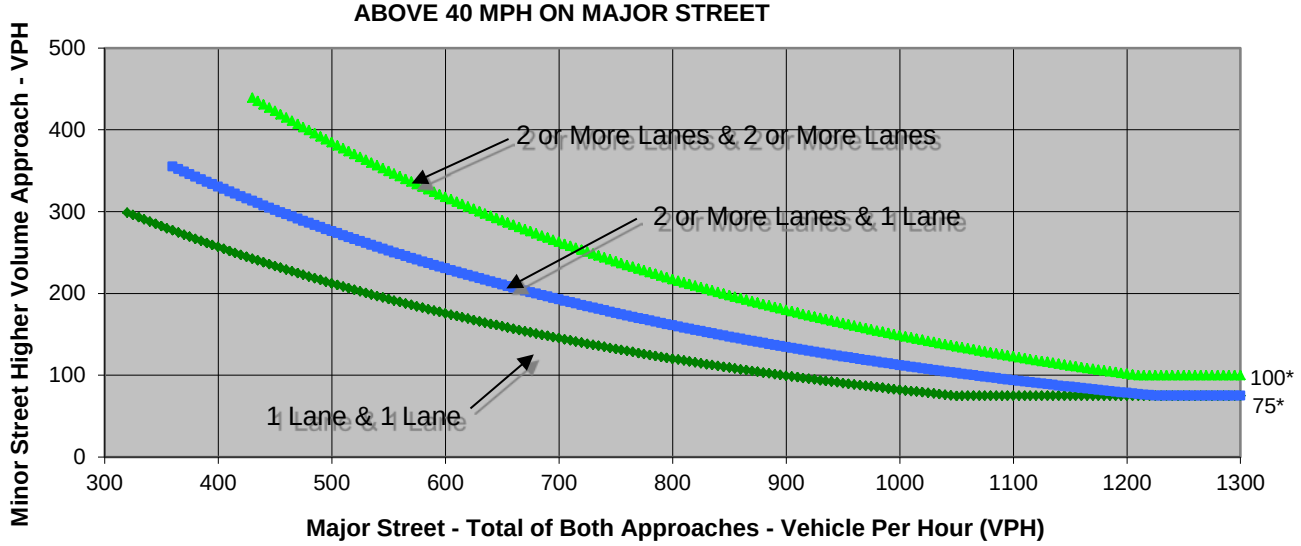
	NB	SB	EB	WB
Left	40	50	120	100
Through	730	640	10	10
Right	50	40	120	100
Total	820	730	250	210

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,550**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

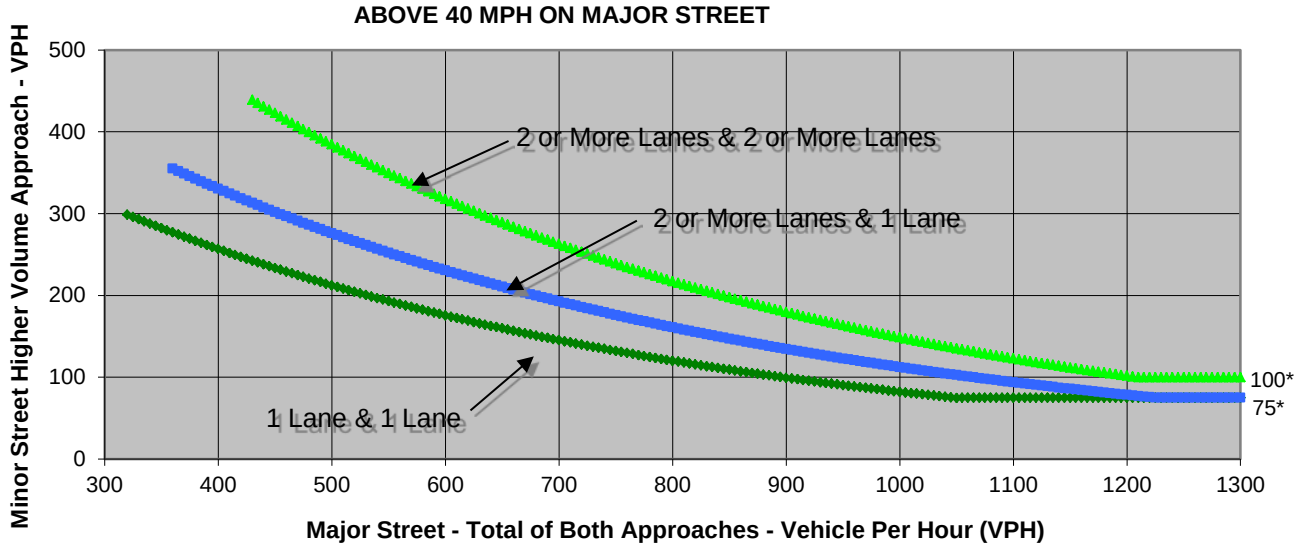
	NB	SB	EB	WB
Left	110	100	70	60
Through	770	850	10	10
Right	100	110	70	60
Total	980	1,060	150	130

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**2,040**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

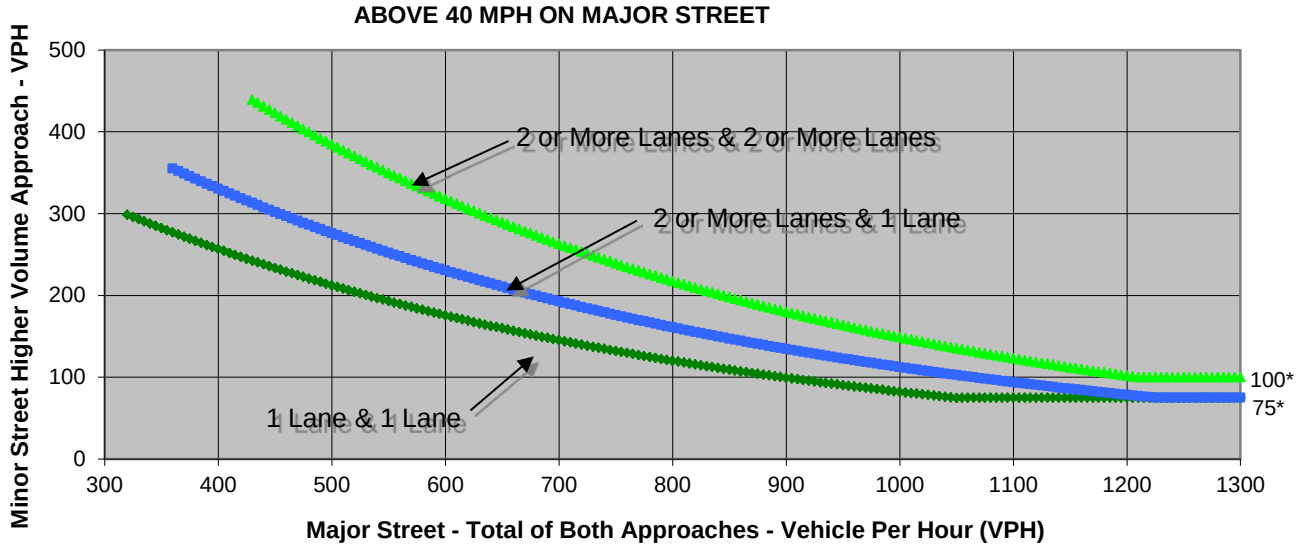
	NB	SB	EB	WB
Left	40	50	120	100
Through	730	640	10	10
Right	50	40	120	100
Total	820	730	250	210

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,550**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

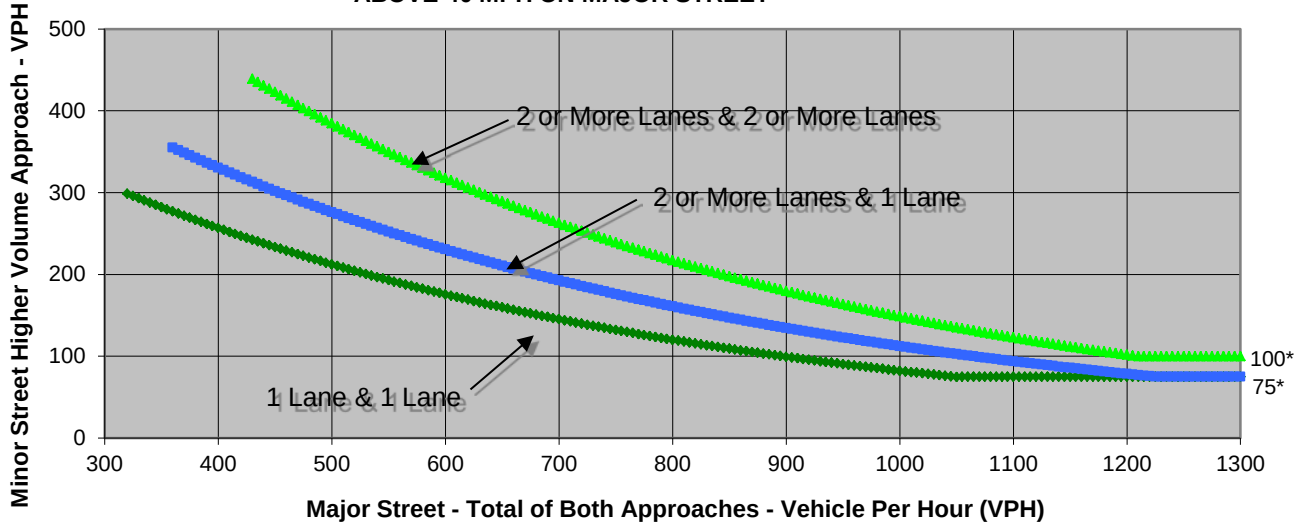
	NB	SB	EB	WB
Left	110	110	70	60
Through	690	850	10	10
Right	100	100	70	60
Total	900	1,060	150	130

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,960**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

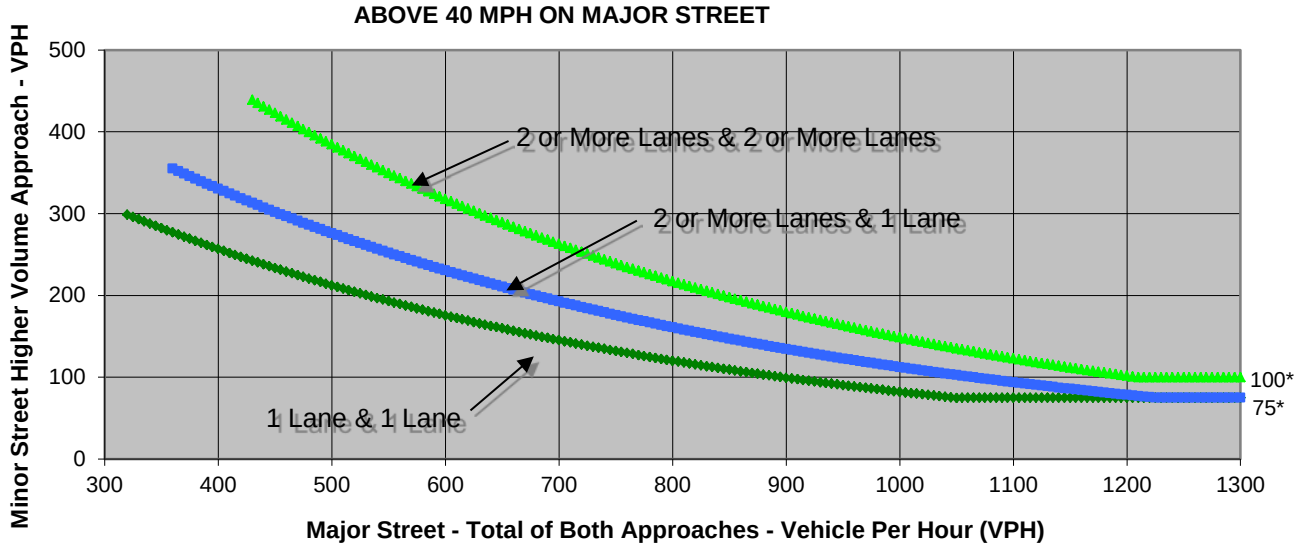
	NB	SB	EB	WB
Left	40	50	120	100
Through	750	650	10	10
Right	50	40	120	100
Total	840	740	250	210

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,580**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

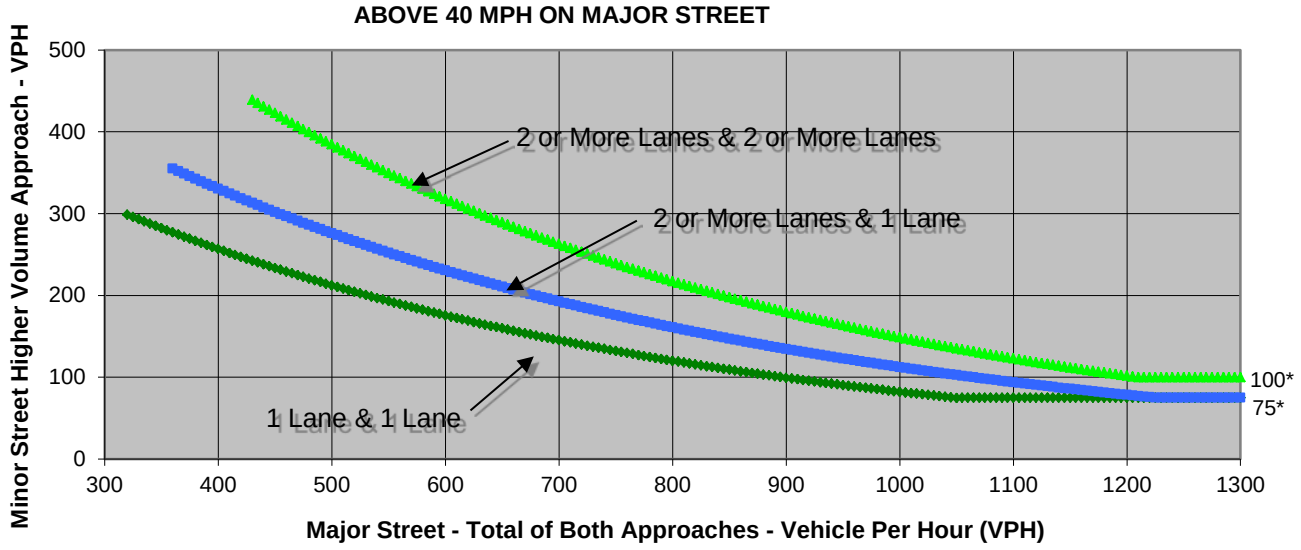
	NB	SB	EB	WB
Left	110	100	70	60
Through	770	890	10	10
Right	100	110	70	60
Total	980	1,100	150	130

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**2,080**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

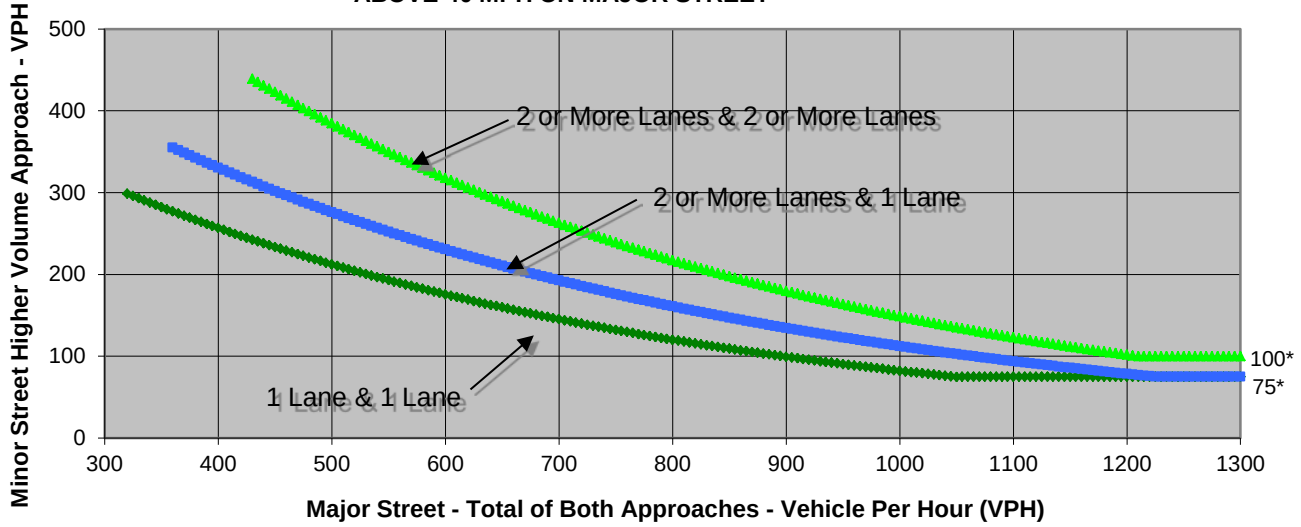
	NB	SB	EB	WB
Left	40	50	120	100
Through	750	650	10	10
Right	50	40	120	100
Total	840	740	250	210

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,580**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	Oakdale Road
Minor Street	Frontage Road

Turn Movement Volumes

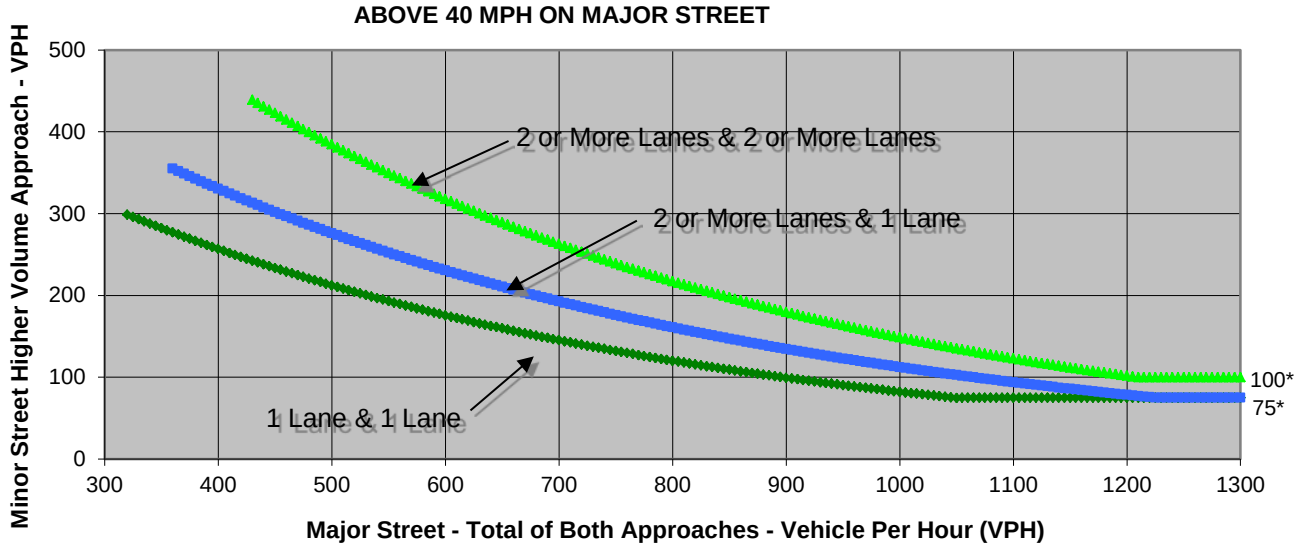
	NB	SB	EB	WB
Left	110	100	70	60
Through	770	890	10	10
Right	100	110	70	60
Total	980	1,100	150	130

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	Frontage Road	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**2,080**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 No Project
Peak Hour	AM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

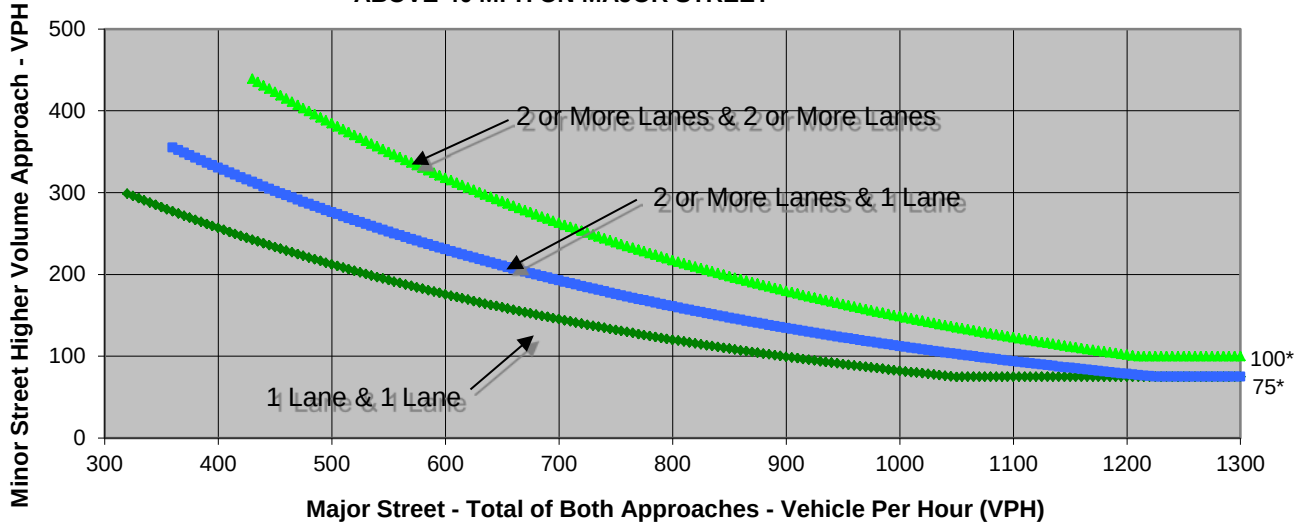
	NB	SB	EB	WB
Left		100	260	
Through			390	220
Right		450		80
Total	0	550	650	300

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**950**	**550**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 No Project
Peak Hour	PM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

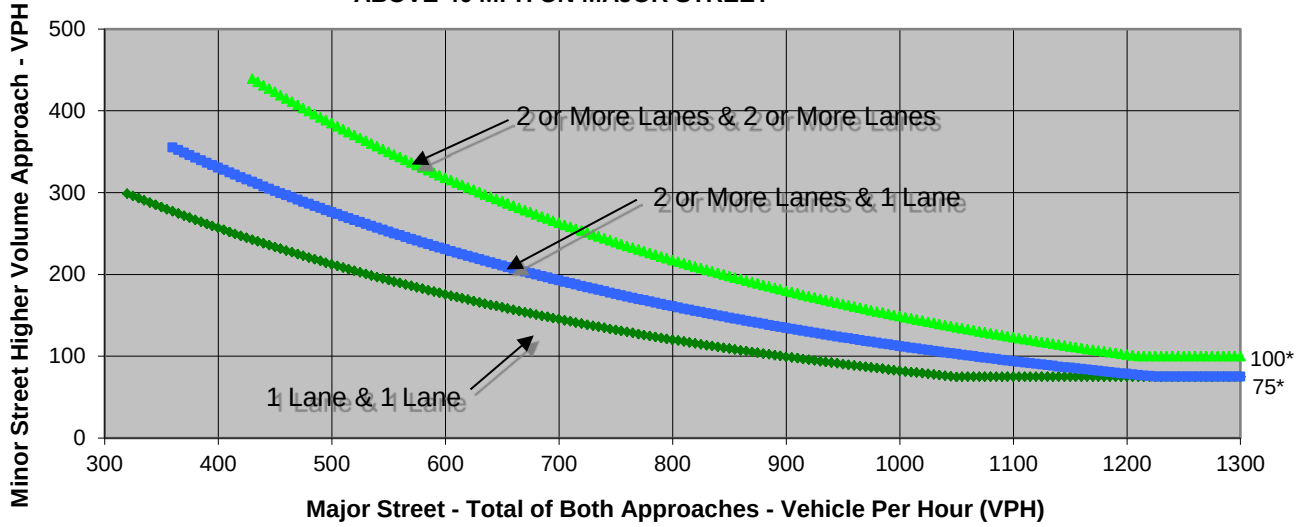
	NB	SB	EB	WB
Left		140	630	
Through			290	410
Right		550		150
Total	0	690	920	560

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,480**	**690**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

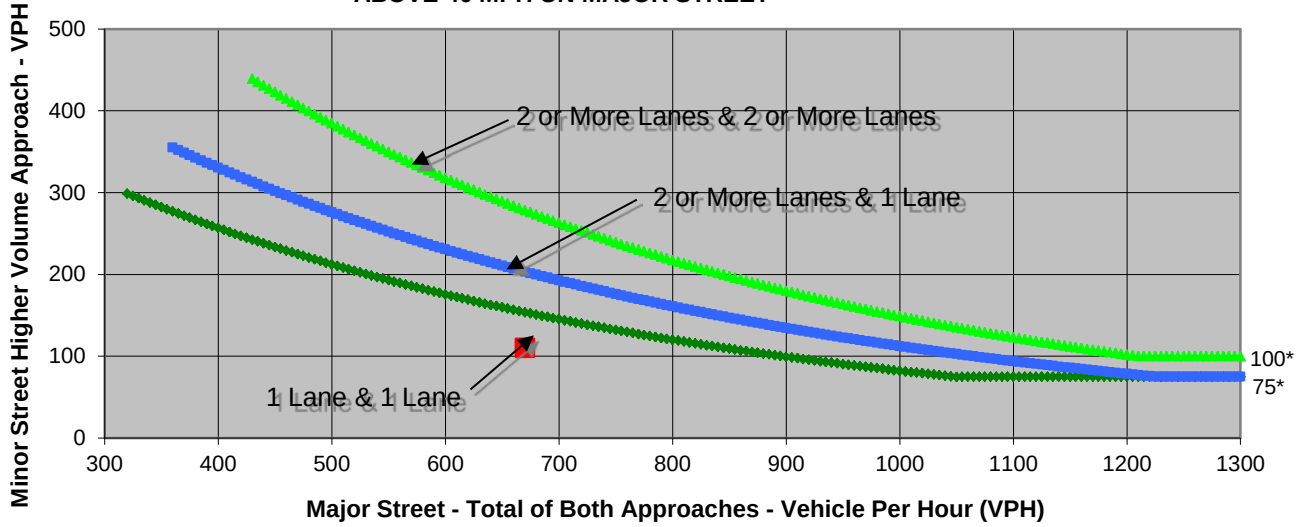
	NB	SB	EB	WB
Left	50	60	240	50
Through	10	10	80	170
Right	50	20	50	80
Total	110	90	370	300

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**670**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

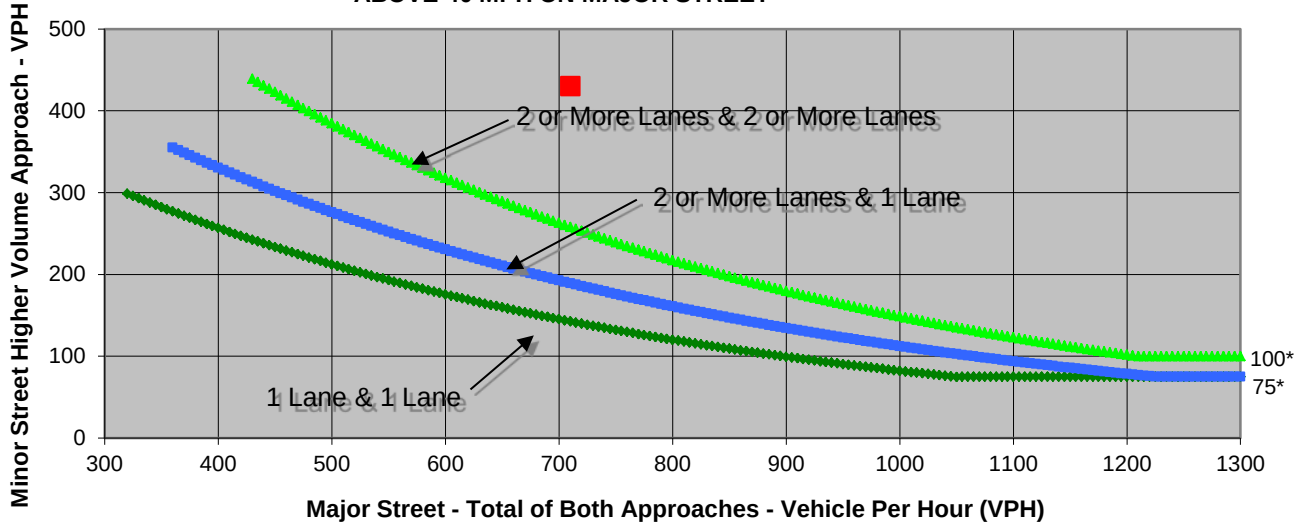
	NB	SB	EB	WB
Left	50	100	200	50
Through	10	10	180	180
Right	50	320	50	50
Total	110	430	430	280

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**710**	**430**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

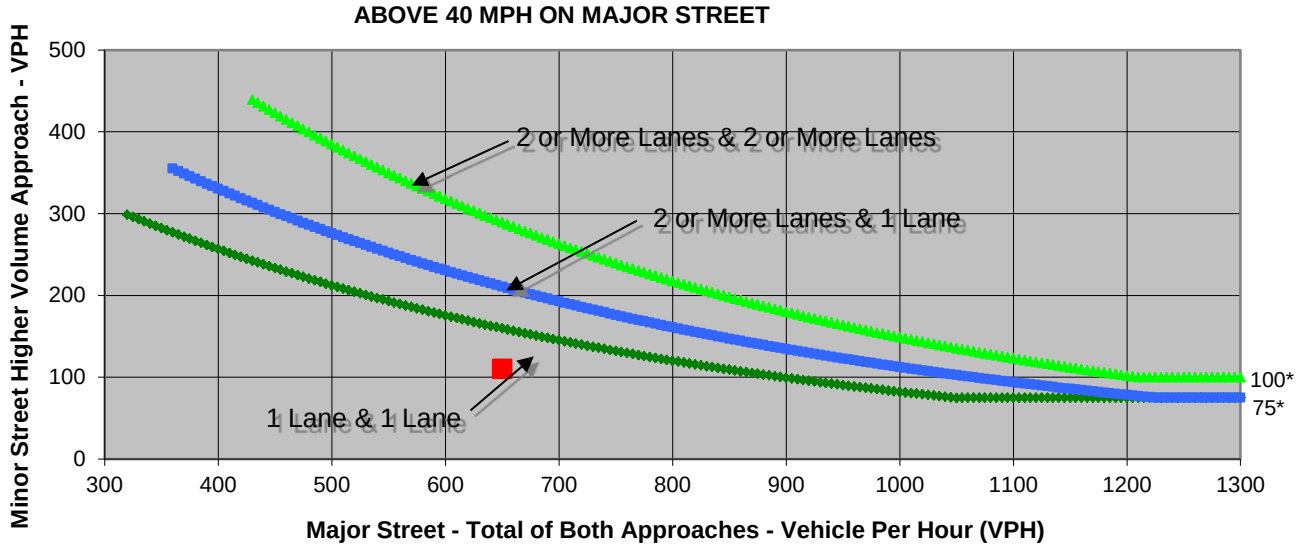
	NB	SB	EB	WB
Left	50	60	220	50
Through	10	10	80	170
Right	50	20	50	80
Total	110	90	350	300

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**650**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

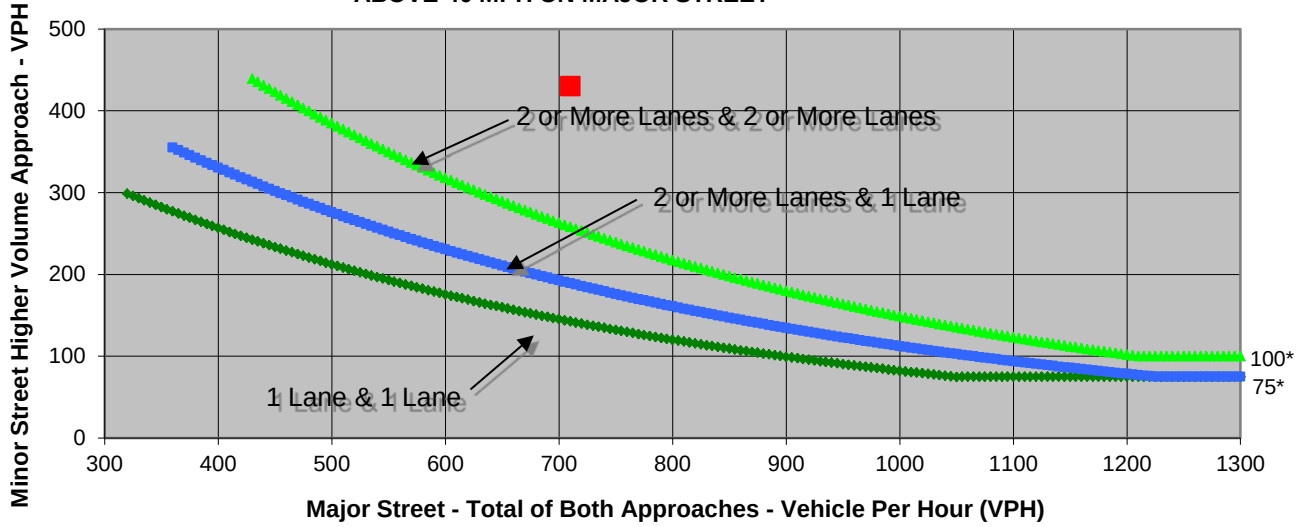
	NB	SB	EB	WB
Left	50	100	200	50
Through	10	10	180	180
Right	50	320	50	50
Total	110	430	430	280

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**710**	**430**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

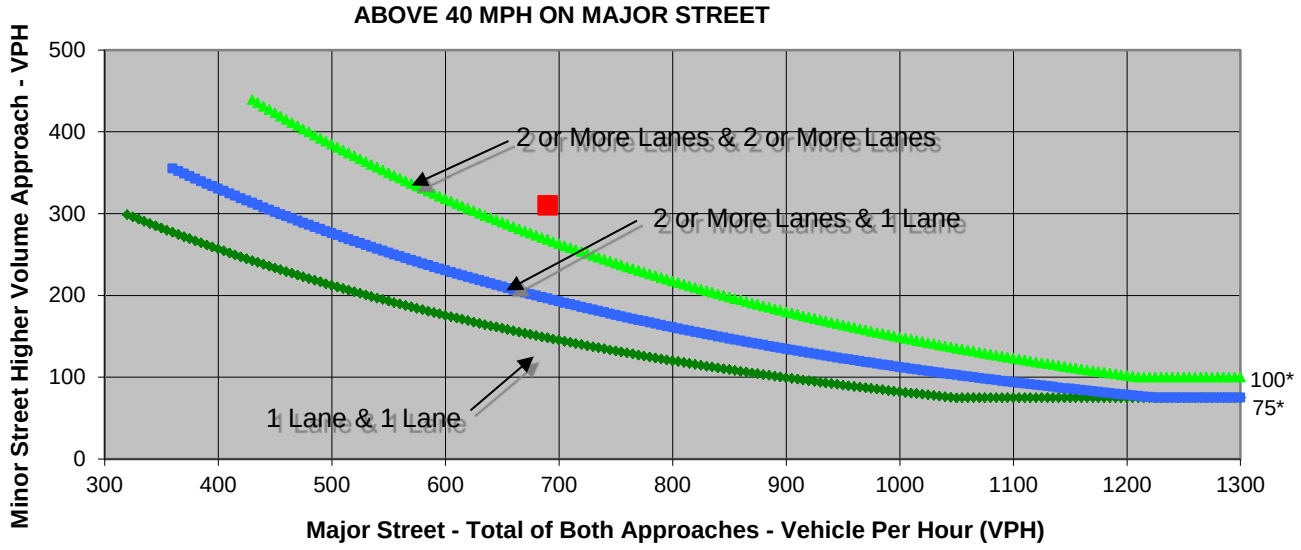
	NB	SB	EB	WB
Left		100	140	
Through			250	220
Right		210		80
Total	0	310	390	300

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**690**	**310**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

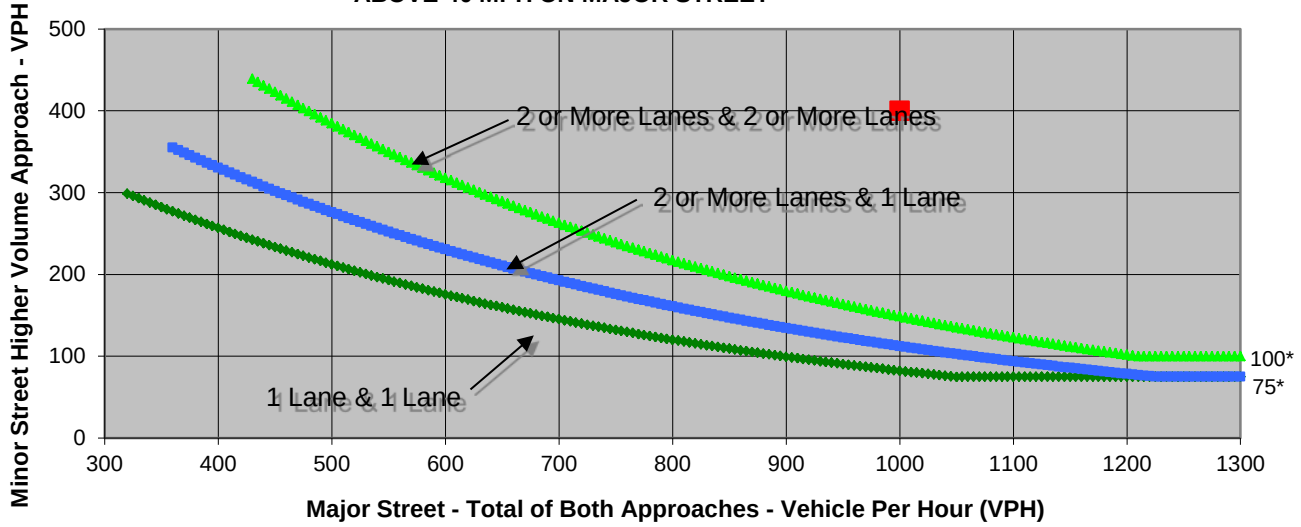
	NB	SB	EB	WB
Left		140	360	
Through			250	290
Right		260		100
Total	0	400	610	390

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,000**	**400**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

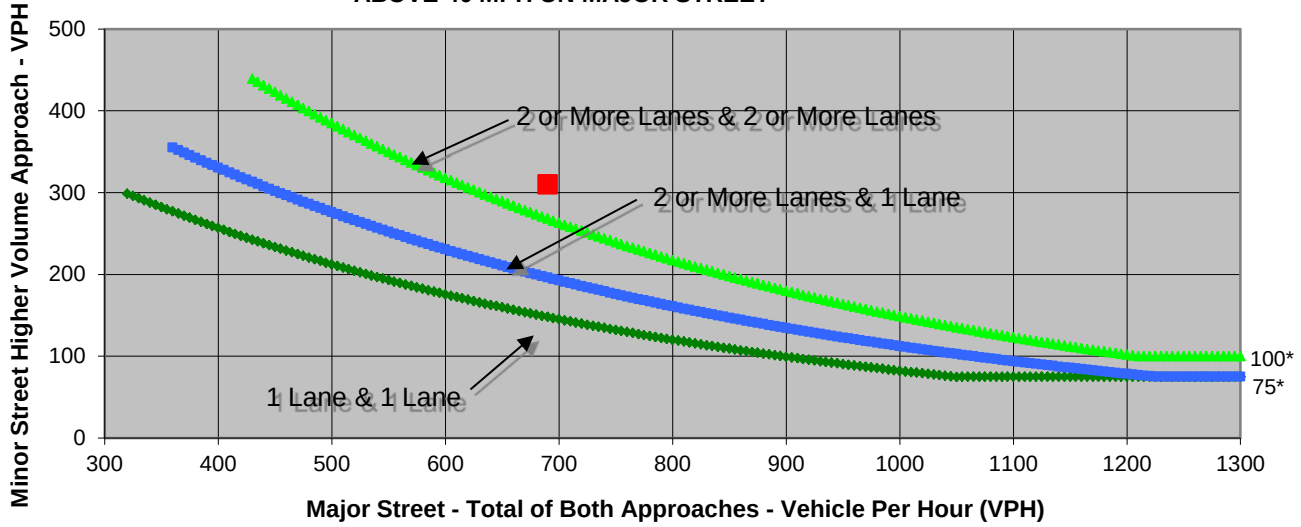
	NB	SB	EB	WB
Left		100	140	
Through			250	220
Right		210		80
Total	0	310	390	300

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**690**	**310**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	Patterson Road
Minor Street	Crane Road

Turn Movement Volumes

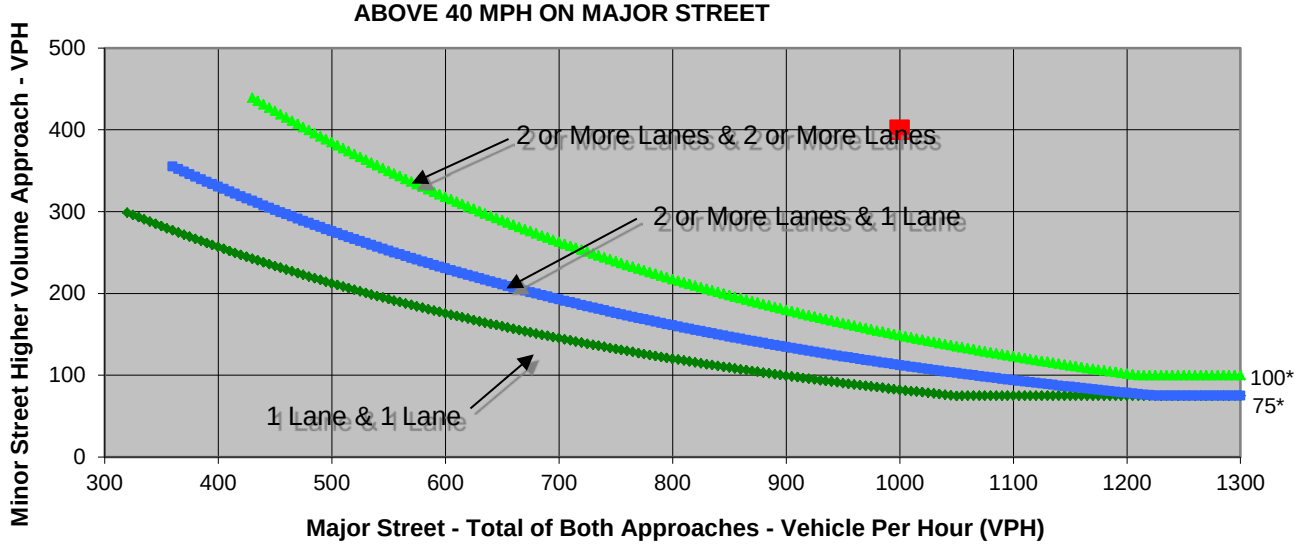
	NB	SB	EB	WB
Left		140	360	
Through			250	290
Right		260		100
Total	0	400	610	390

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Patterson Road	Crane Road	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,000**	**400**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 No Project
Peak Hour	AM

Major Street	Claribel Road
Minor Street	Roselle Avenue

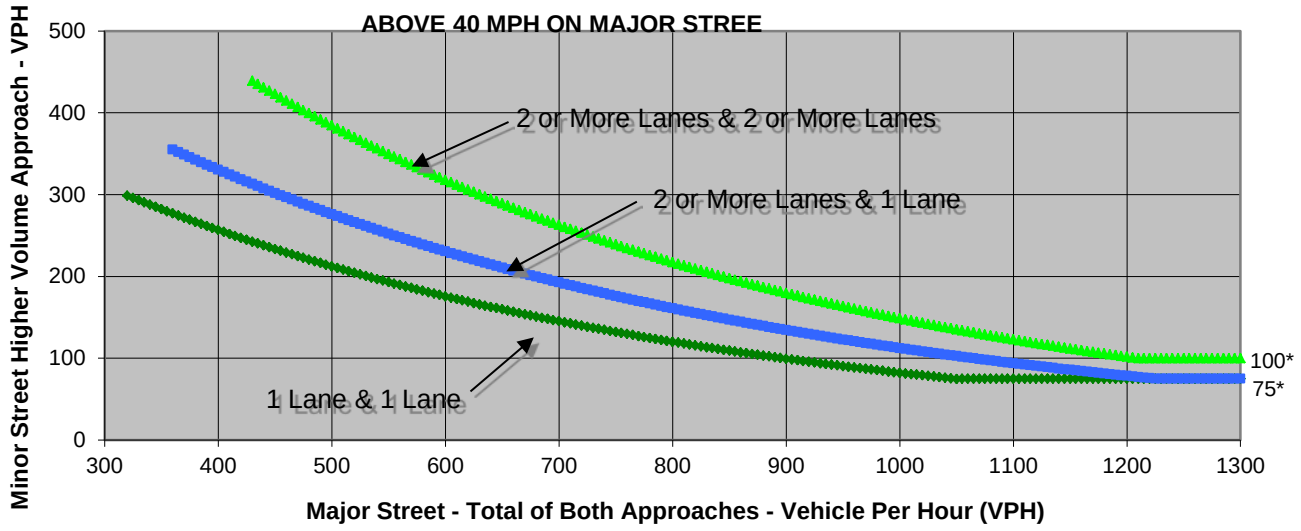
Turn Movement Volumes

	NB	SB	EB	WB
Left	130	80	40	340
Through	360	400	400	420
Right	250	90	160	90
Total	740	570	600	850

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREE



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Roselle Avenue	
Number of Approach Lanes	**2**	**3**	**YES**
Traffic Volume (VPH) *	**1,450**	**740**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 No Project
Peak Hour	PM

Major Street	Claribel Road
Minor Street	Roselle Avenue

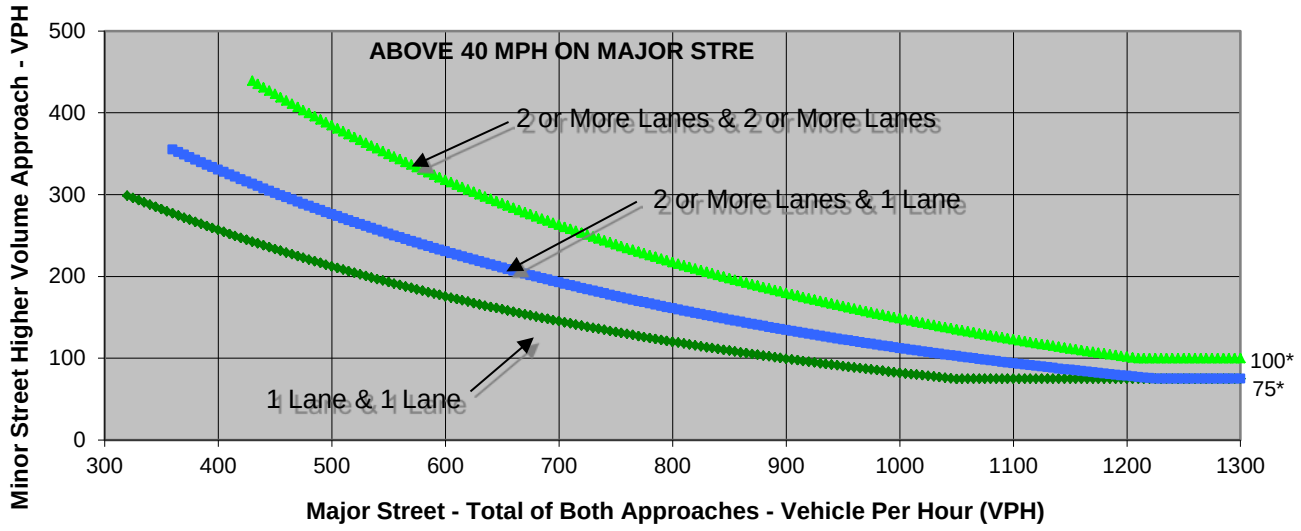
Turn Movement Volumes

	NB	SB	EB	WB
Left	280	60	90	290
Through	510	360	450	520
Right	390	80	240	90
Total	1,180	500	780	900

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Claribel Road	Roselle Avenue	
Number of Approach Lanes	**2**	**3**	**YES**
Traffic Volume (VPH) *	**1,680**	**1,180**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

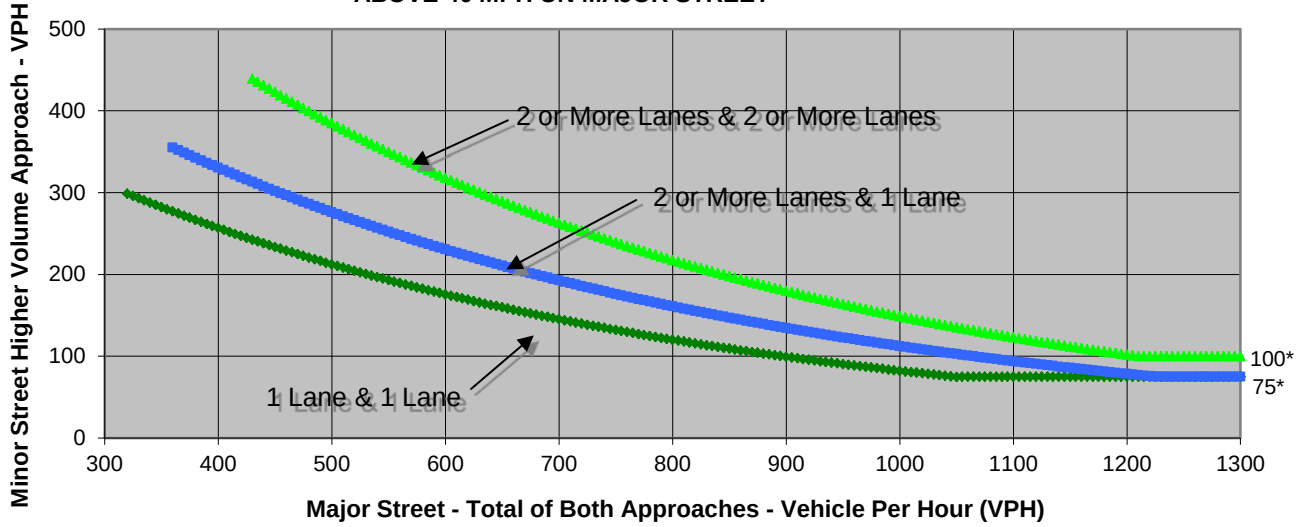
	NB	SB	EB	WB
Left	0	50		50
Through	770	840		0
Right	50	0		280
Total	820	890	0	330

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street Roselle Avenue	Minor Street Frontage Road	Warrant Met
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,710**	**330**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

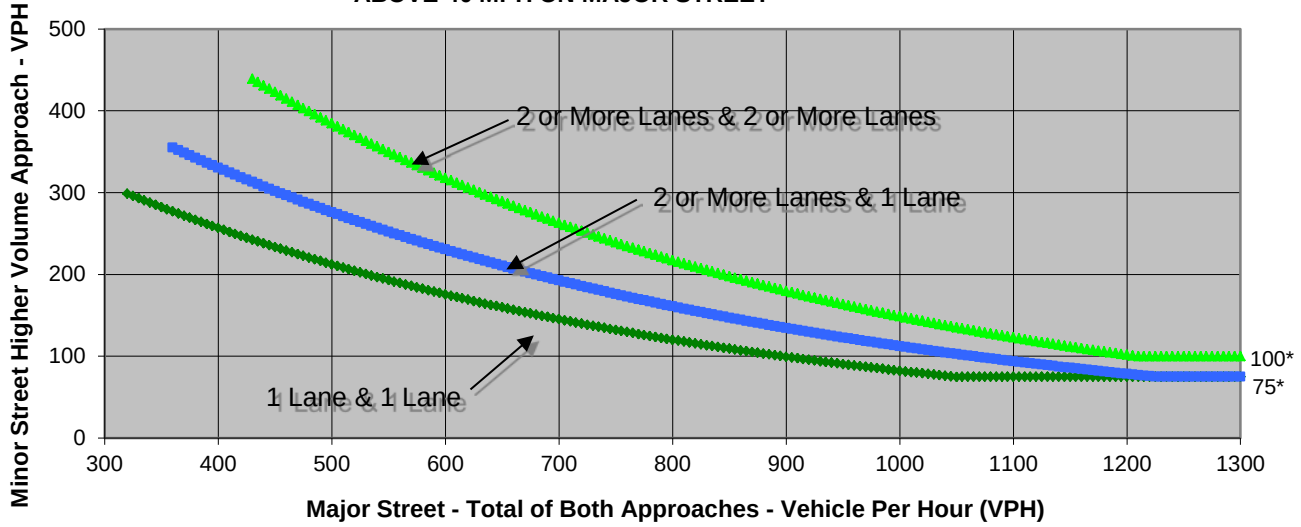
	NB	SB	EB	WB
Left	0	110		100
Through	870	920		0
Right	100	0		150
Total	970	1,030	0	250

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Frontage Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**2,000**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

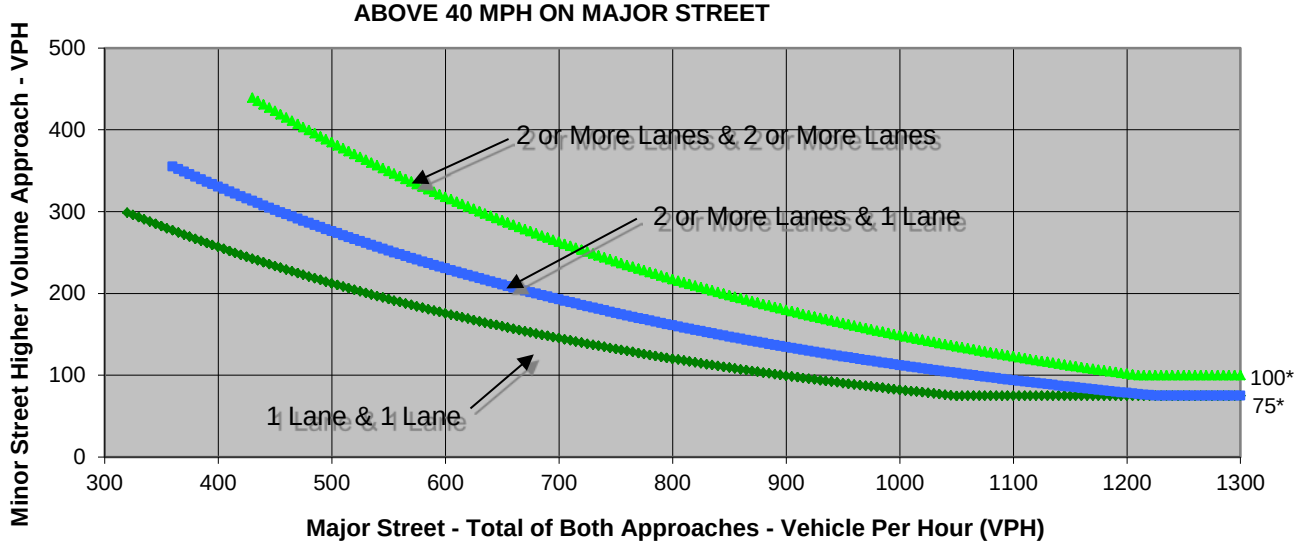
	NB	SB	EB	WB
Left	0	50		50
Through	770	830		0
Right	50	0		280
Total	820	880	0	330

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Frontage Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,700**	**330**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

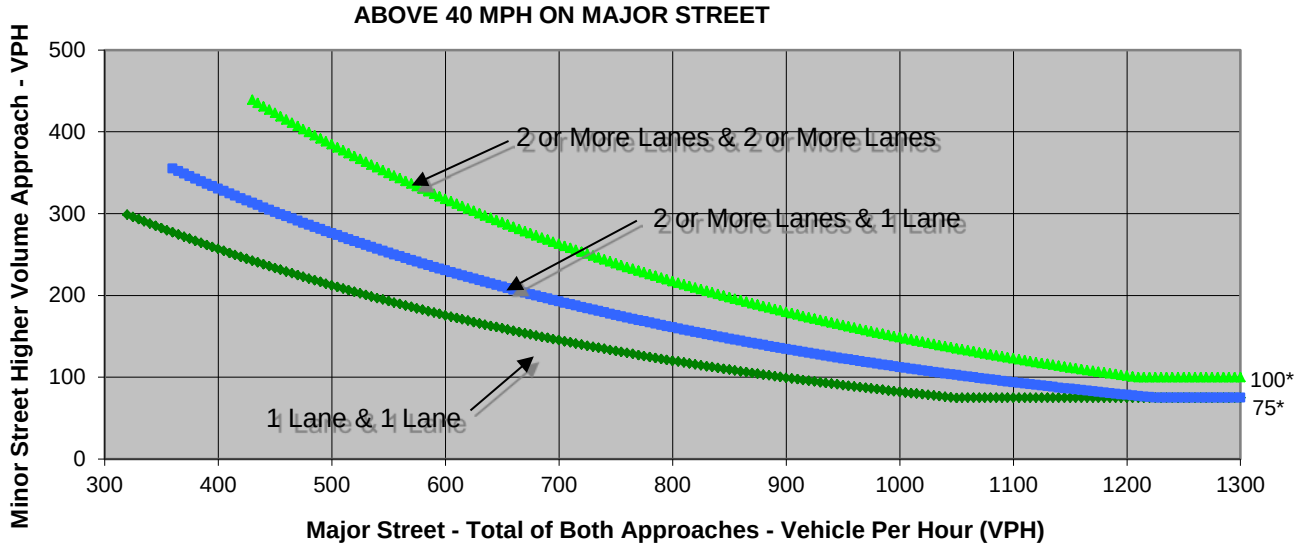
	NB	SB	EB	WB
Left	0	110		100
Through	870	920		0
Right	100	0		150
Total	970	1,030	0	250

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Frontage Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**2,000**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

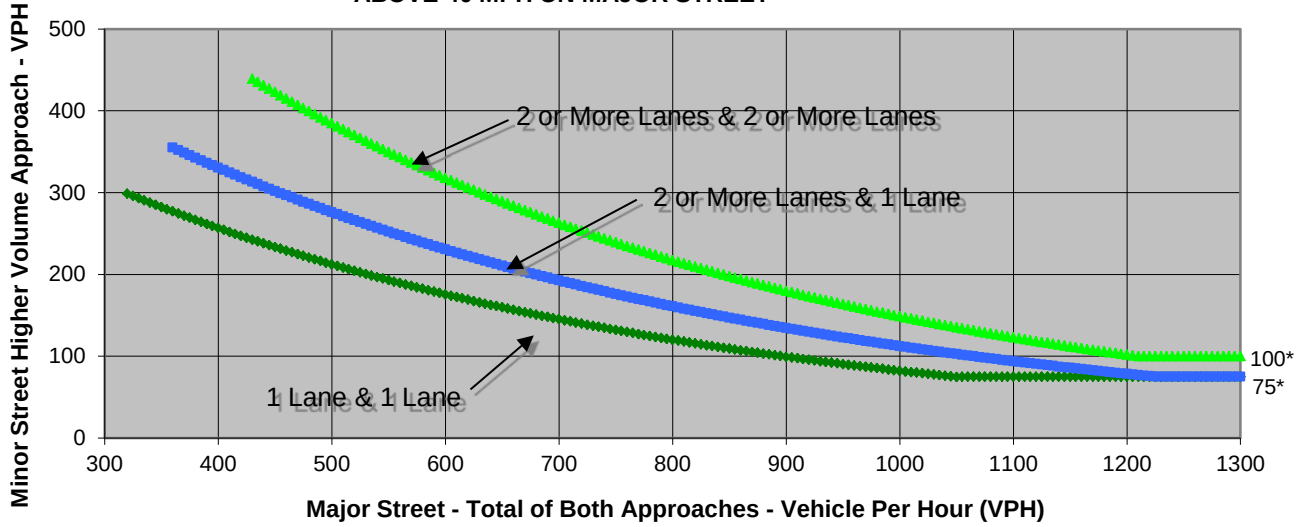
	NB	SB	EB	WB
Left	0	50		50
Through	780	800		0
Right	50	0		280
Total	830	850	0	330

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street Roselle Avenue	Minor Street Frontage Road	Warrant Met
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,680**	**330**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

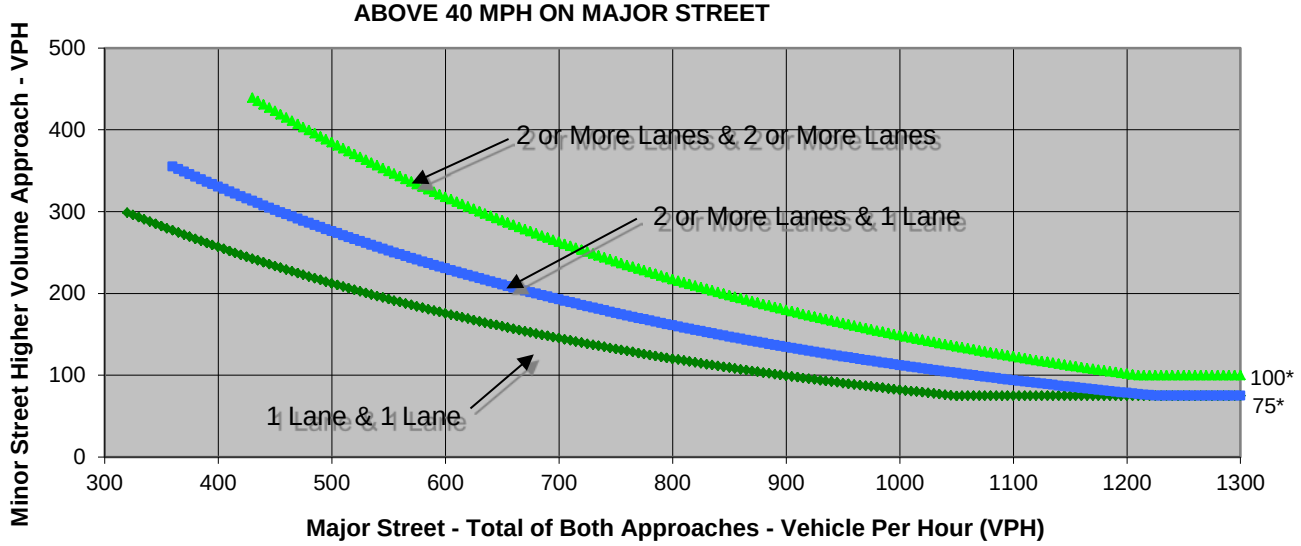
	NB	SB	EB	WB
Left	0	110		100
Through	880	940		0
Right	100	0		150
Total	980	1,050	0	250

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Frontage Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**2,030**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	Frontage Road

Turn Movement Volumes

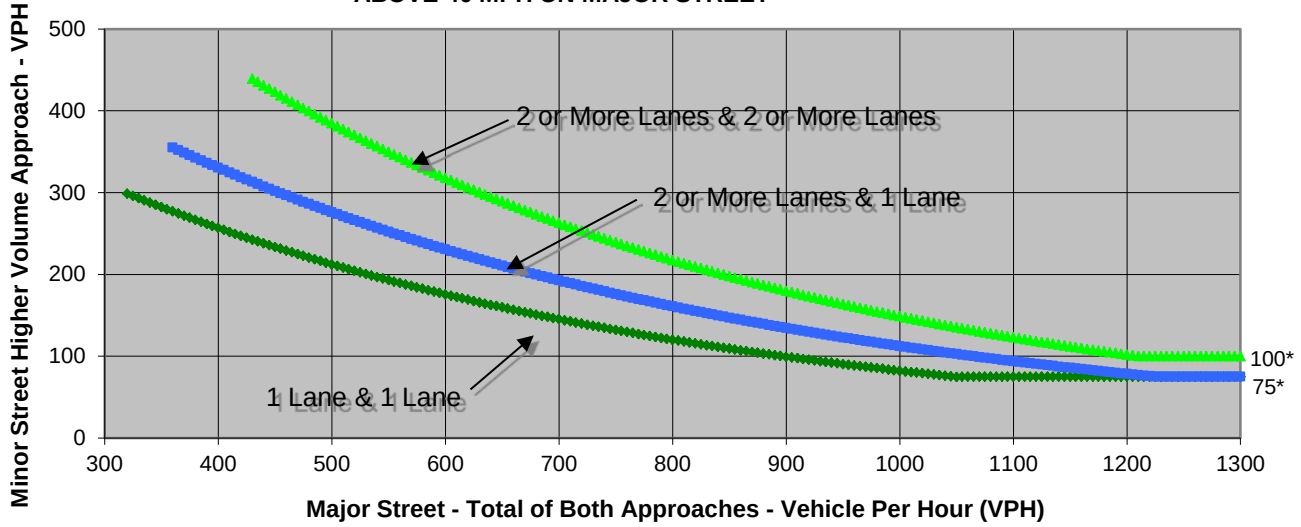
	NB	SB	EB	WB
Left	0	50		50
Through	780	770		0
Right	50	0		280
Total	830	820	0	330

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Frontage Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,650**	**330**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	Frontage Road

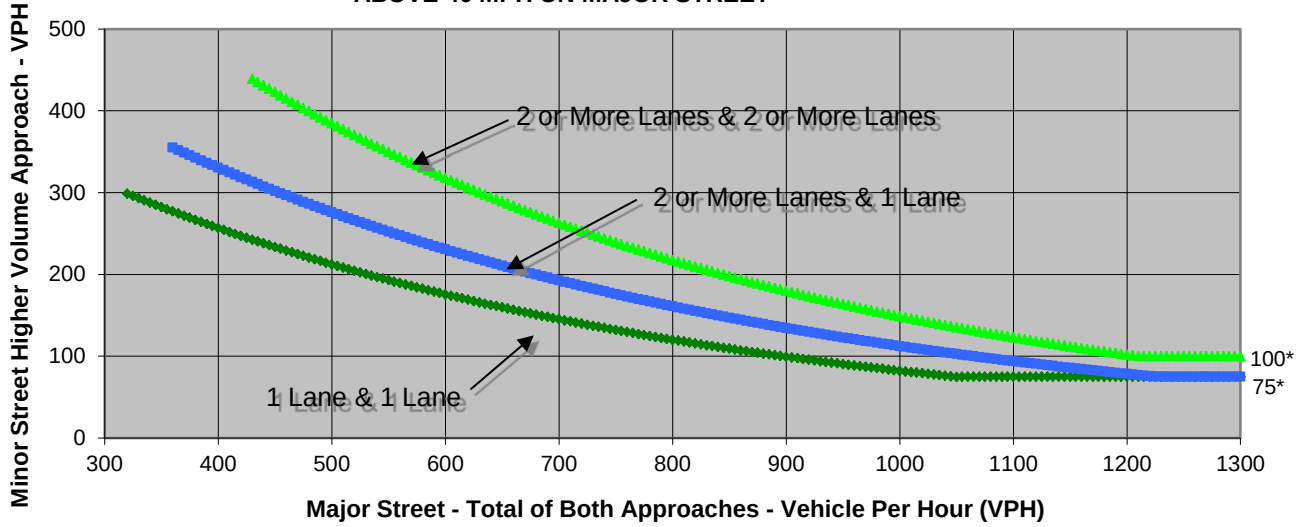
Turn Movement Volumes

	NB	SB	EB	WB
Left	0	110		100
Through	850	1,020		0
Right	100	0		150
Total	950	1,130	0	250

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR
ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	Frontage Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**2,080**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	NCC
Minor Street	Smith Road

Turn Movement Volumes

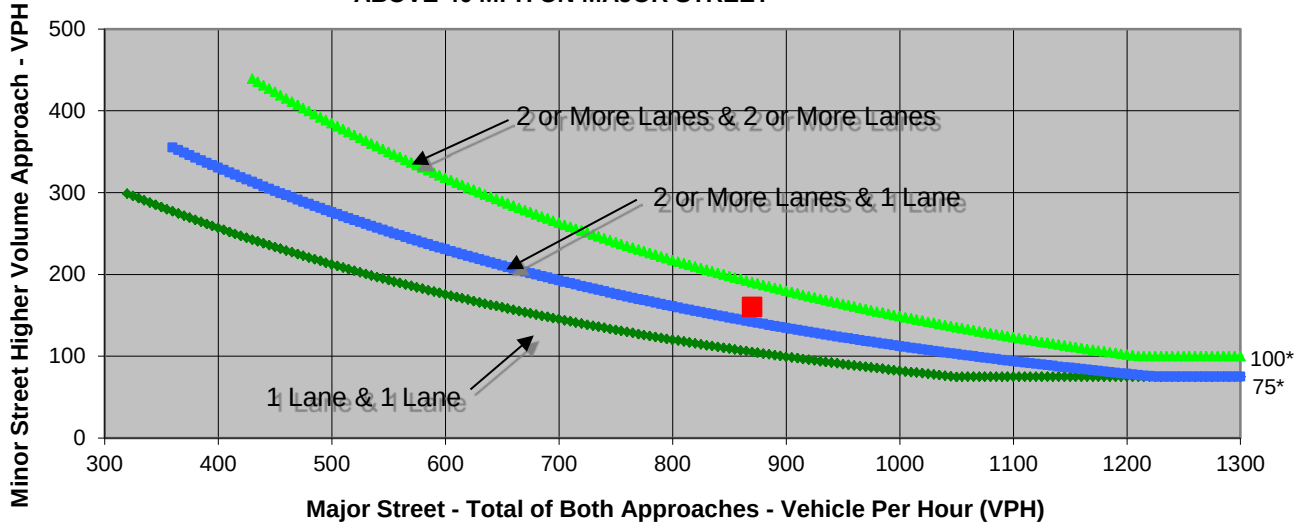
	NB	SB	EB	WB
Left	20	20	130	20
Through	20	20	320	360
Right	20	120	20	20
Total	60	160	470	400

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Smith Road	
Number of Approach Lanes	**4**	**2**	**NO**
Traffic Volume (VPH) *	**870**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	NCC
Minor Street	Smith Road

Turn Movement Volumes

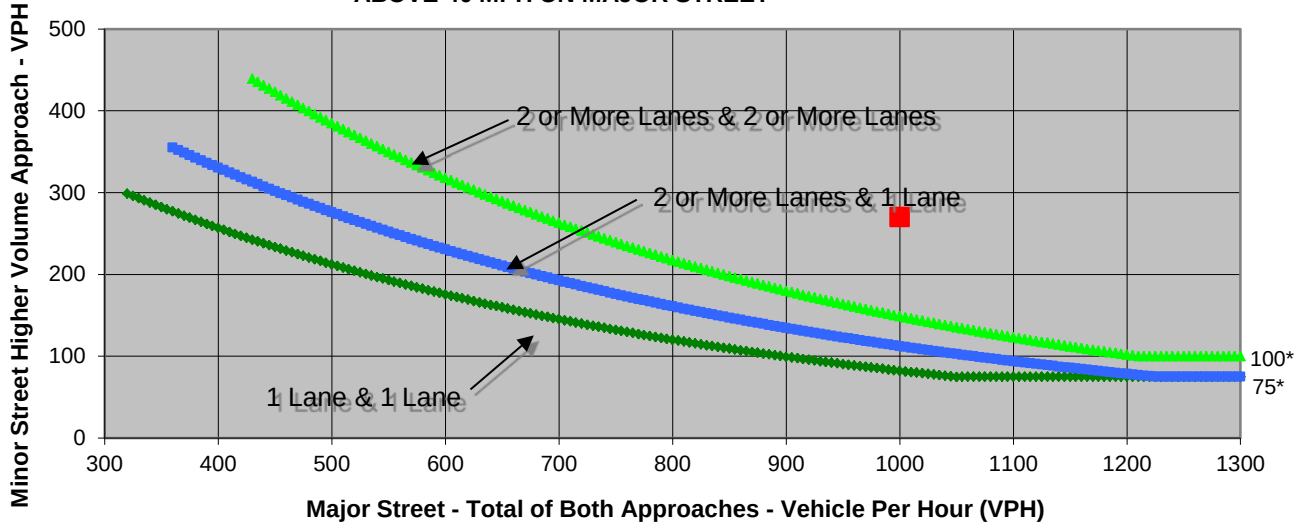
	NB	SB	EB	WB
Left	20	20	180	20
Through	30	60	430	330
Right	20	190	20	20
Total	70	270	630	370

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC	Smith Road	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,000**	**270**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	NCC SPUI
Minor Street	Oakdale Road

Turn Movement Volumes

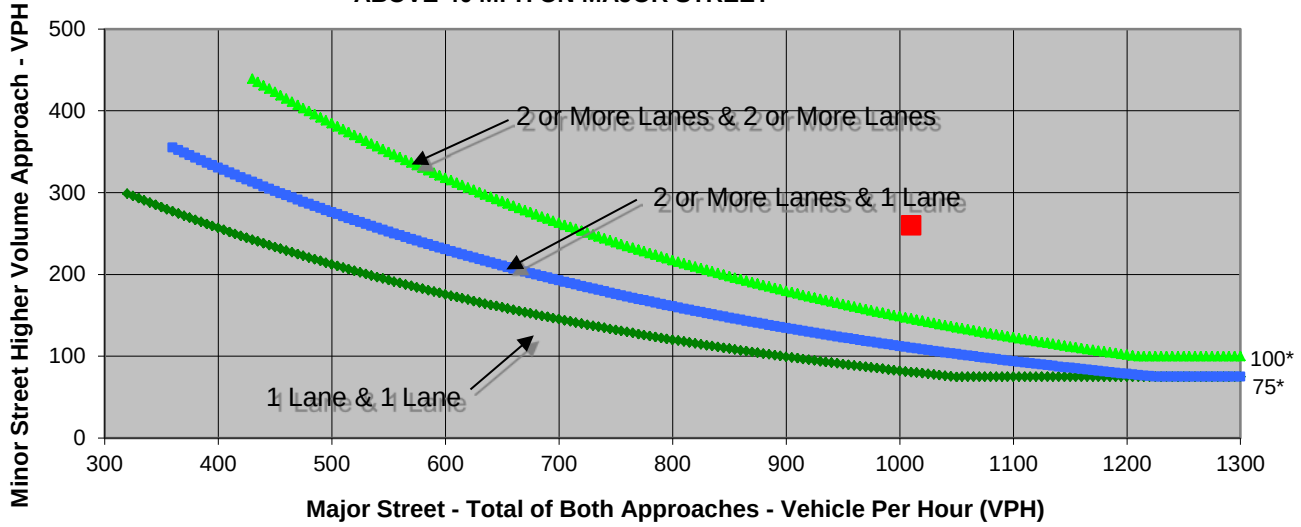
	NB	SB	EB	WB
Left	80	100	90	260
Through	400	430		
Right				
Total	480	530	90	260

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC SPUI	Oakdale Road	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,010**	**260**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Oakdale
Minor Street	NCC SPUI

Turn Movement Volumes

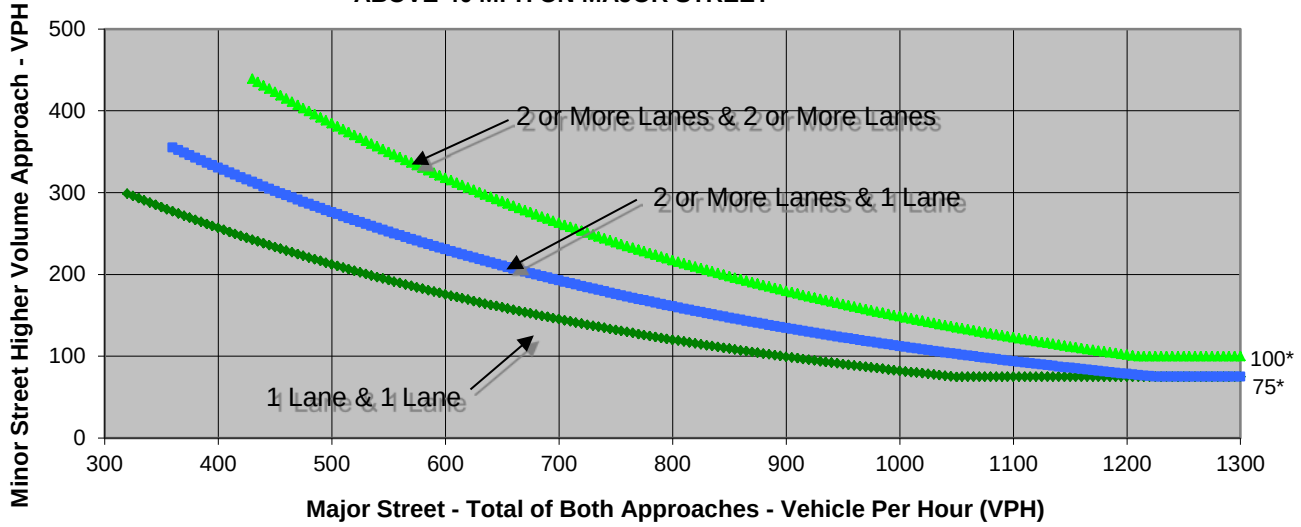
	NB	SB	EB	WB
Left	20	140	670	300
Through	480	600		
Right				
Total	500	740	670	300

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,240**	**670**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	NCC SPUI

Turn Movement Volumes

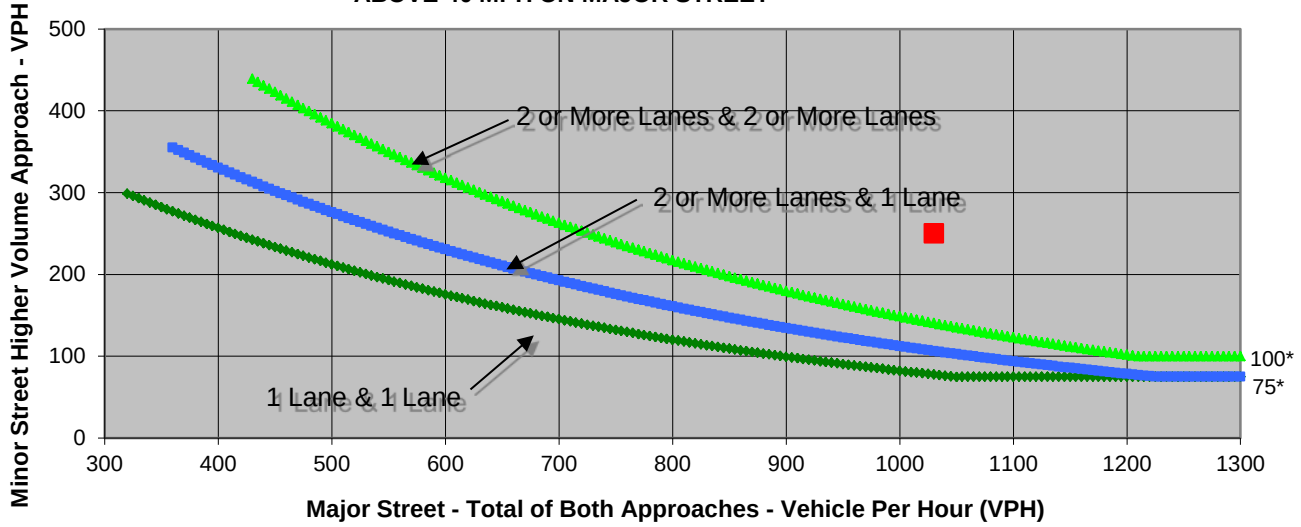
	NB	SB	EB	WB
Left	80	100	90	250
Through	410	440		
Right				
Total	490	540	90	250

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,030**	**250**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Oakdale Road
Minor Street	NCC SPUI

Turn Movement Volumes

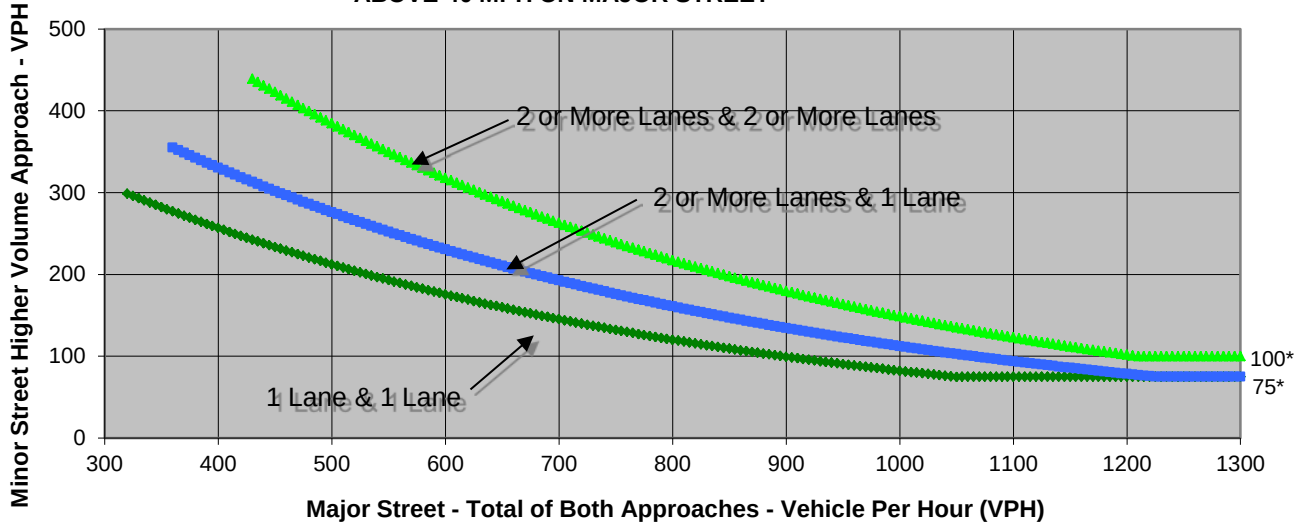
	NB	SB	EB	WB
Left	20	140	690	300
Through	400	600		
Right				
Total	420	740	690	300

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,160**	**690**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	NCC SPUI

Turn Movement Volumes

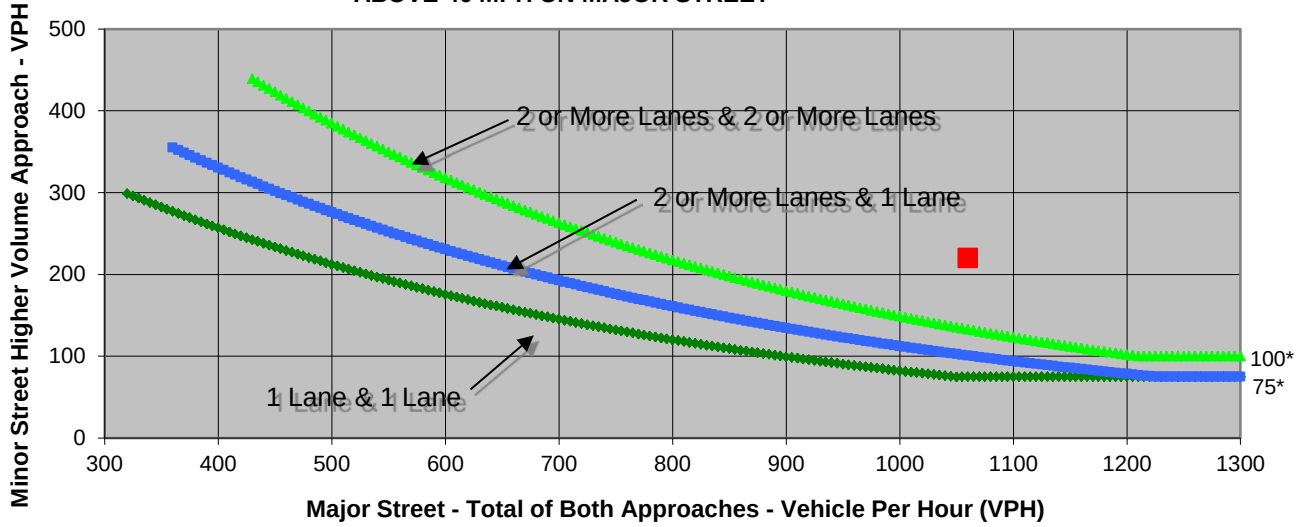
	NB	SB	EB	WB
Left	80	90	90	220
Through	430	460		
Right				
Total	510	550	90	220

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,060**	**220**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	Oakdale Road
Minor Street	NCC SPUI

Turn Movement Volumes

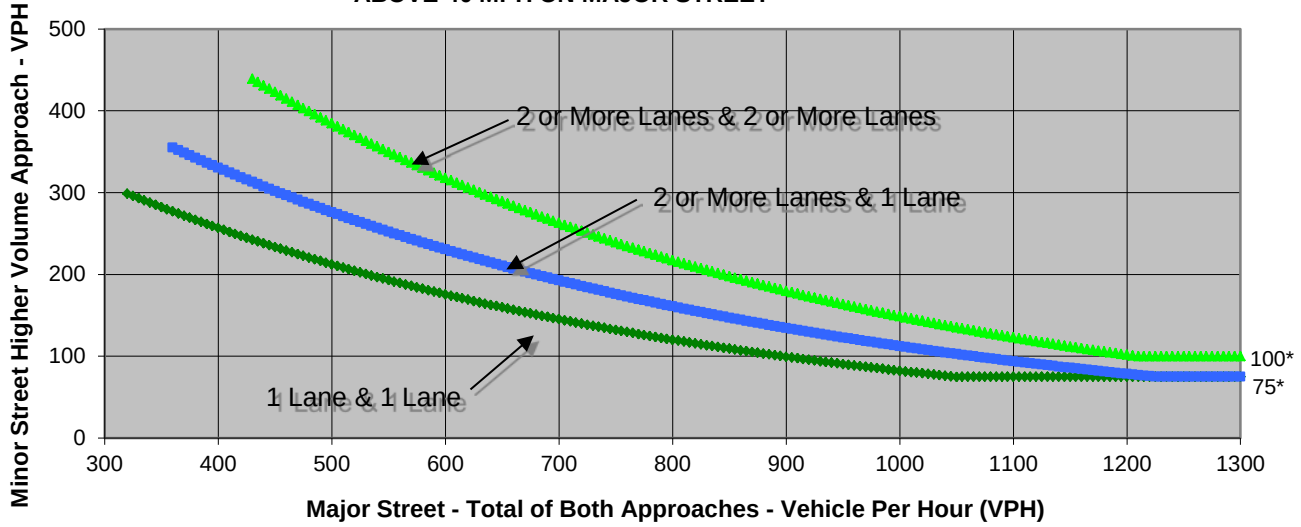
	NB	SB	EB	WB
Left	20	130	770	300
Through	520	610		
Right				
Total	540	740	770	300

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,280**	**770**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	Oakdale Road
Minor Street	NCC SPUI

Turn Movement Volumes

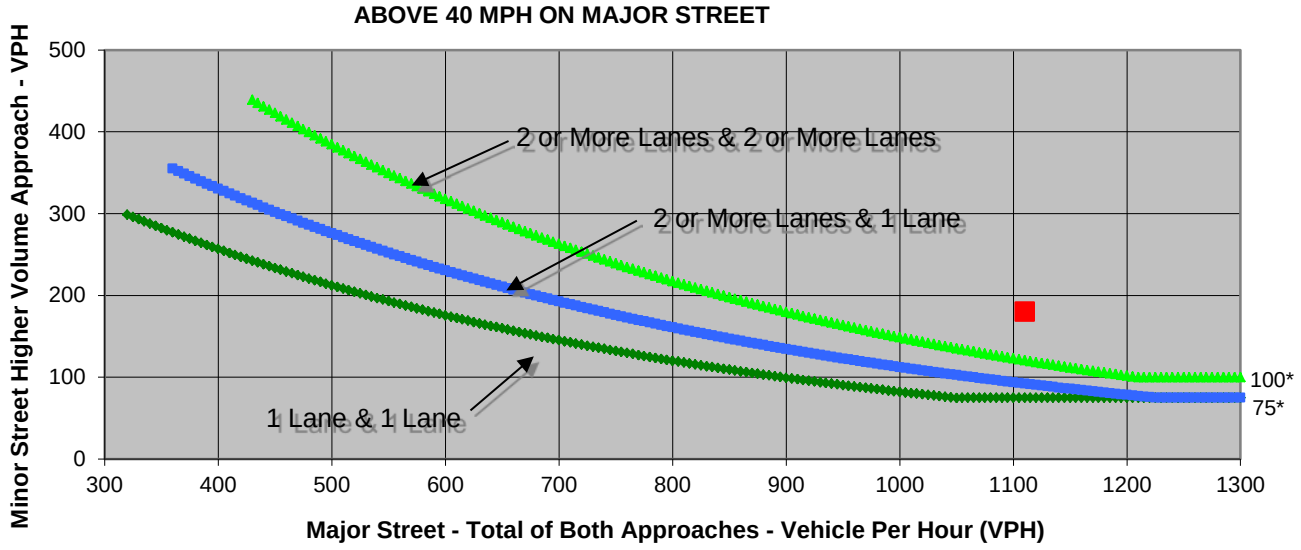
	NB	SB	EB	WB
Left	80	90	90	180
Through	450	490		
Right				
Total	530	580	90	180

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,110**	**180**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	Oakdale Road
Minor Street	NCC SPUI

Turn Movement Volumes

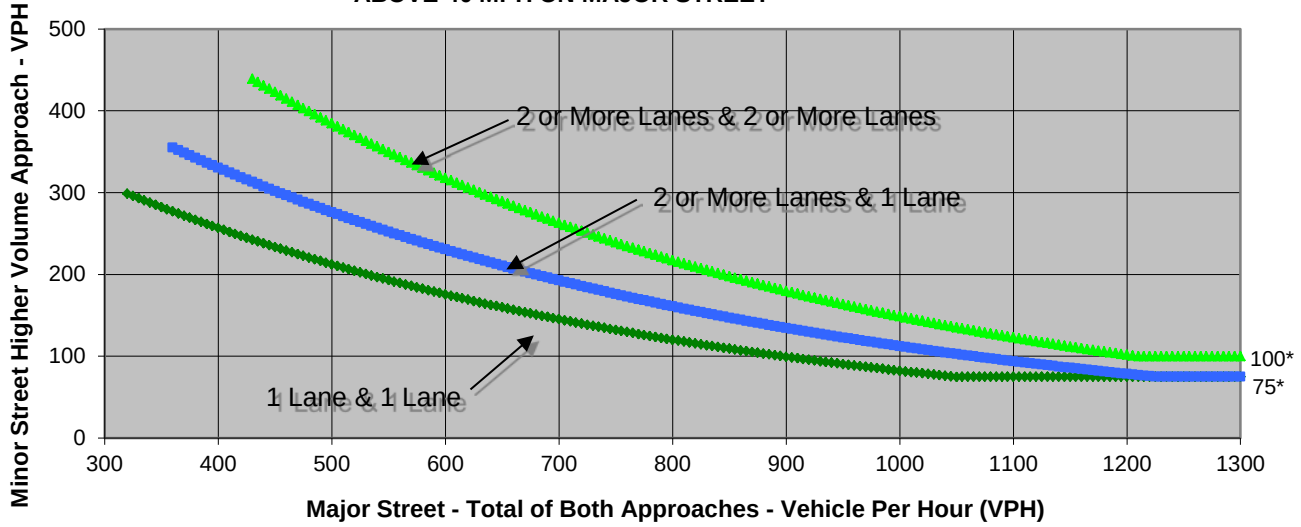
	NB	SB	EB	WB
Left	20	120	780	280
Through	550	630		
Right				
Total	570	750	780	280

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Oakdale Road	NCC SPUI	
Number of Approach Lanes	**4**	**2**	**YES**
Traffic Volume (VPH) *	**1,320**	**780**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	NCC SPUI
Minor Street	Roselle

Turn Movement Volumes

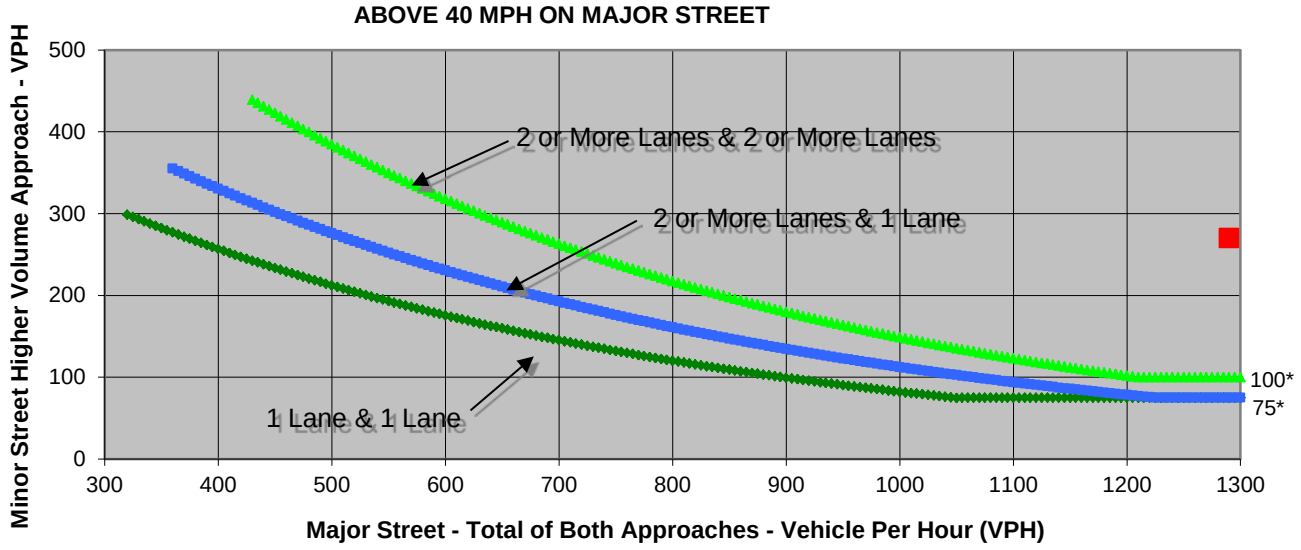
	NB	SB	EB	WB
Left	260	120	20	270
Through	430	480		
Right				
Total	690	600	20	270

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	NCC SPUI	Roselle	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,290**	**270**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Roselle
Minor Street	NCC SPUI

Turn Movement Volumes

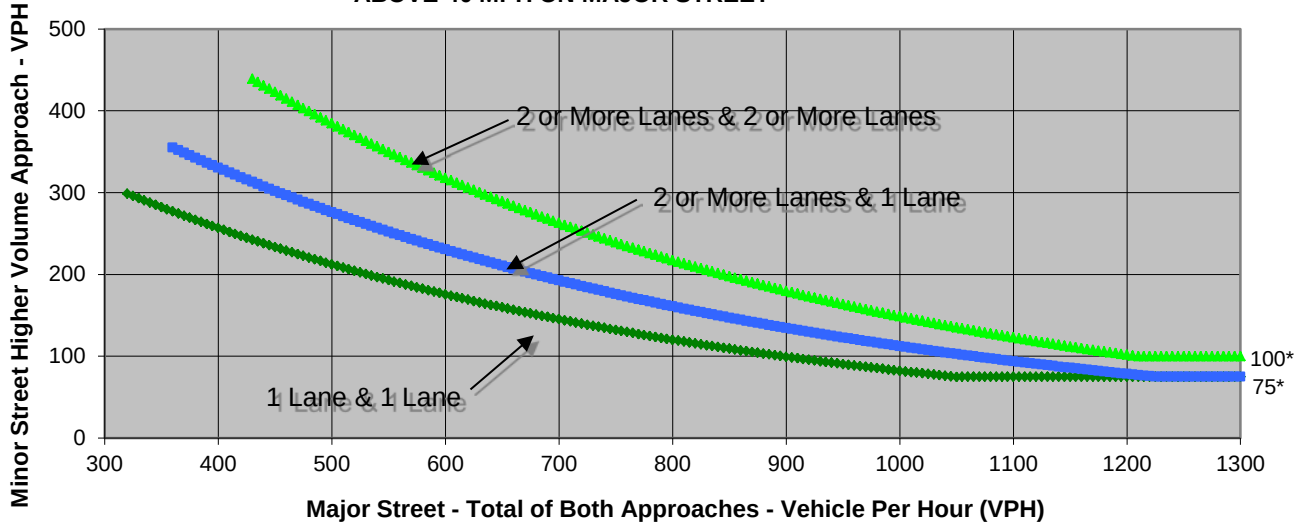
	NB	SB	EB	WB
Left	170	100	70	130
Through	580	540		
Right				
Total	750	640	70	130

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle	NCC SPUI	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,390**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	NCC SPUI

Turn Movement Volumes

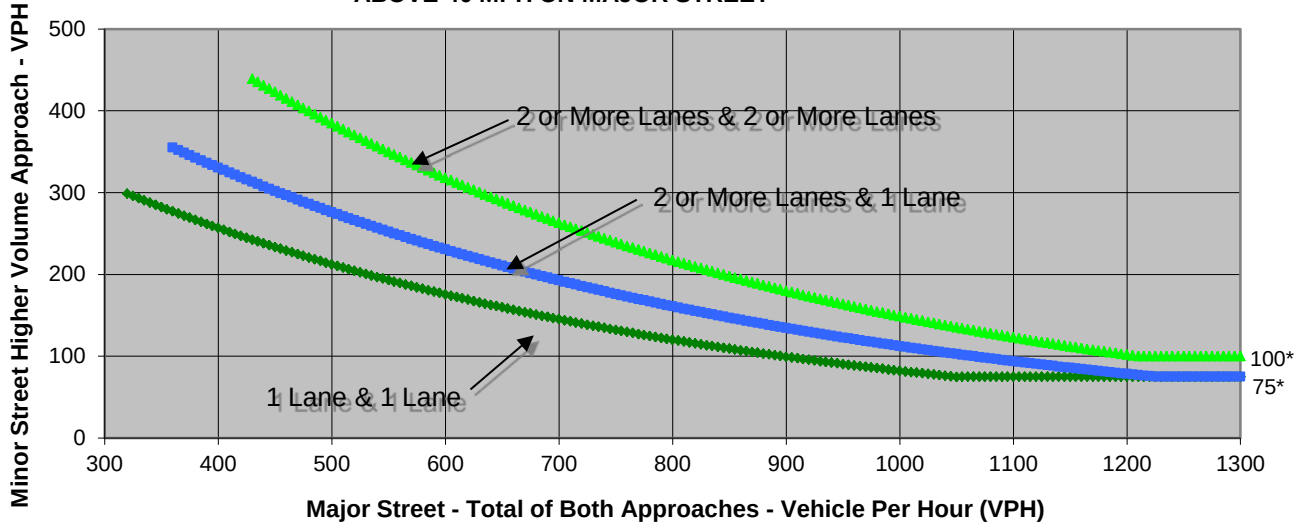
	NB	SB	EB	WB
Left	170	100	70	130
Through	580	500		
Right				
Total	750	600	70	130

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	NCC SPUI	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,350**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	NCC SPUI

Turn Movement Volumes

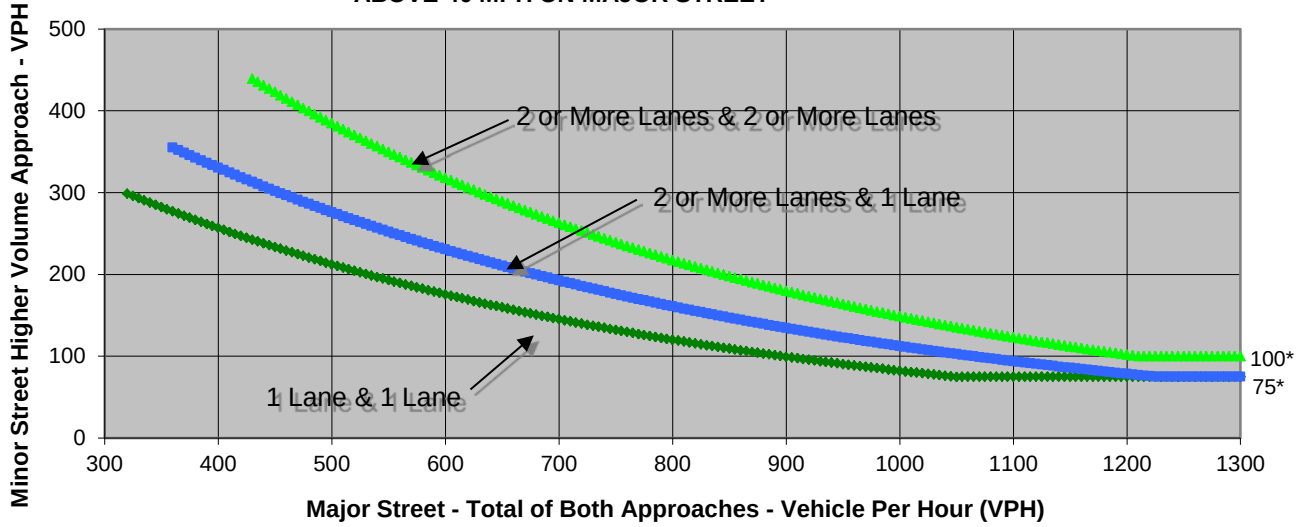
	NB	SB	EB	WB
Left	170	100	70	130
Through	580	540		
Right				
Total	750	640	70	130

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	NCC SPUI	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,390**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	NCC SPUI

Turn Movement Volumes

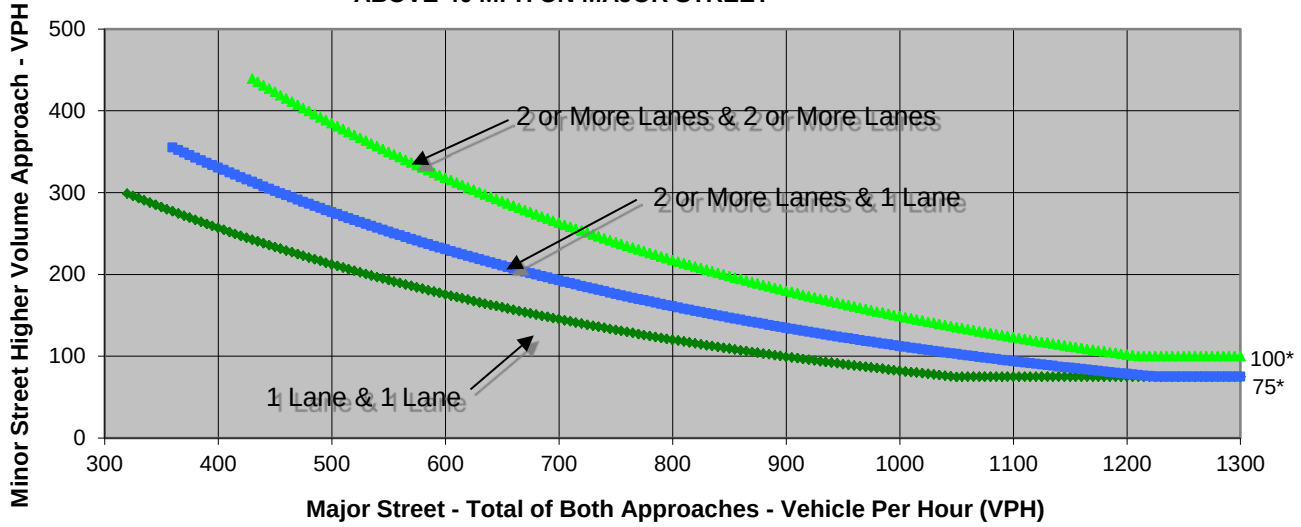
	NB	SB	EB	WB
Left	260	120	20	210
Through	440	500		
Right				
Total	700	620	20	210

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	NCC SPUI	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,320**	**210**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	NCC SPUI

Turn Movement Volumes

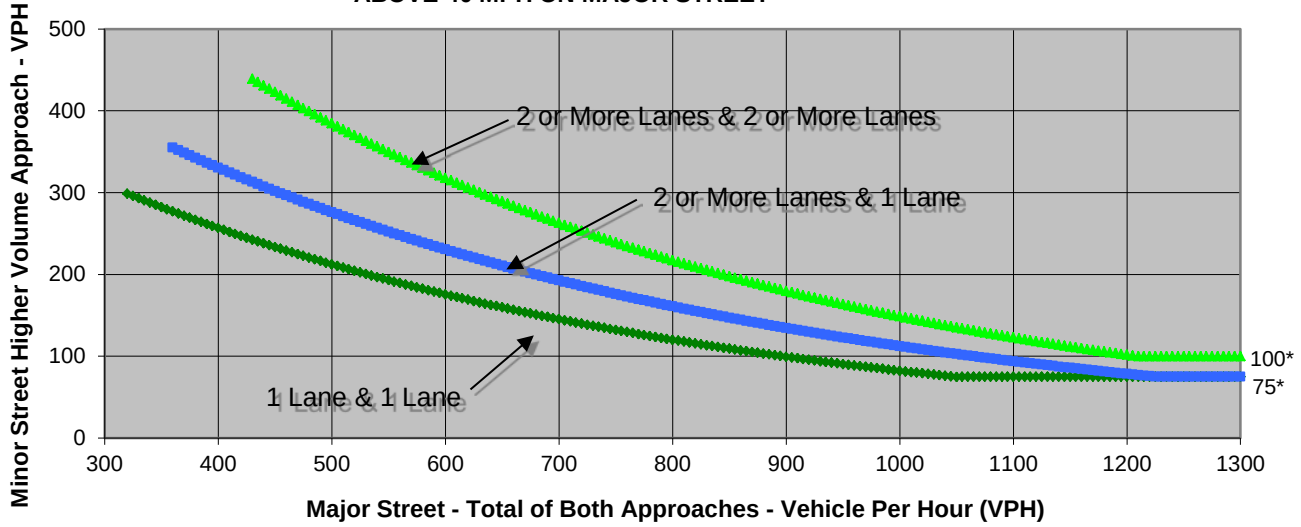
	NB	SB	EB	WB
Left	170	100	70	110
Through	590	580		
Right				
Total	760	680	70	110

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	NCC SPUI	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,440**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	Roselle Avenue
Minor Street	NCC SPUI

Turn Movement Volumes

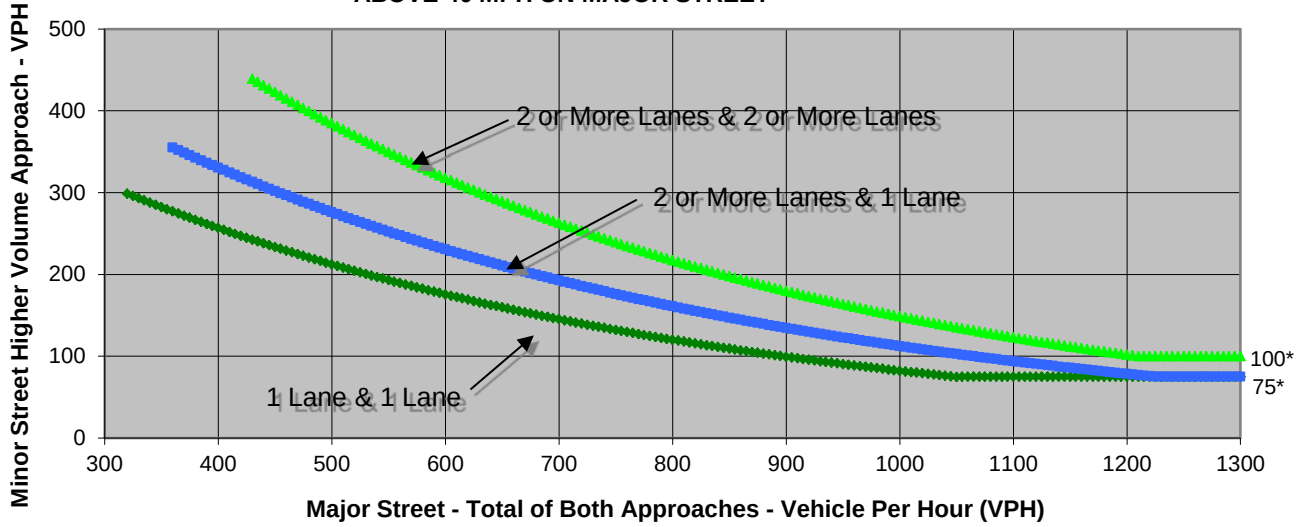
	NB	SB	EB	WB
Left	260	120	20	180
Through	440	500		
Right				
Total	700	620	20	180

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	NCC SPUI	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,320**	**180**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	Roselle Avenue
Minor Street	NCC SPUI

Turn Movement Volumes

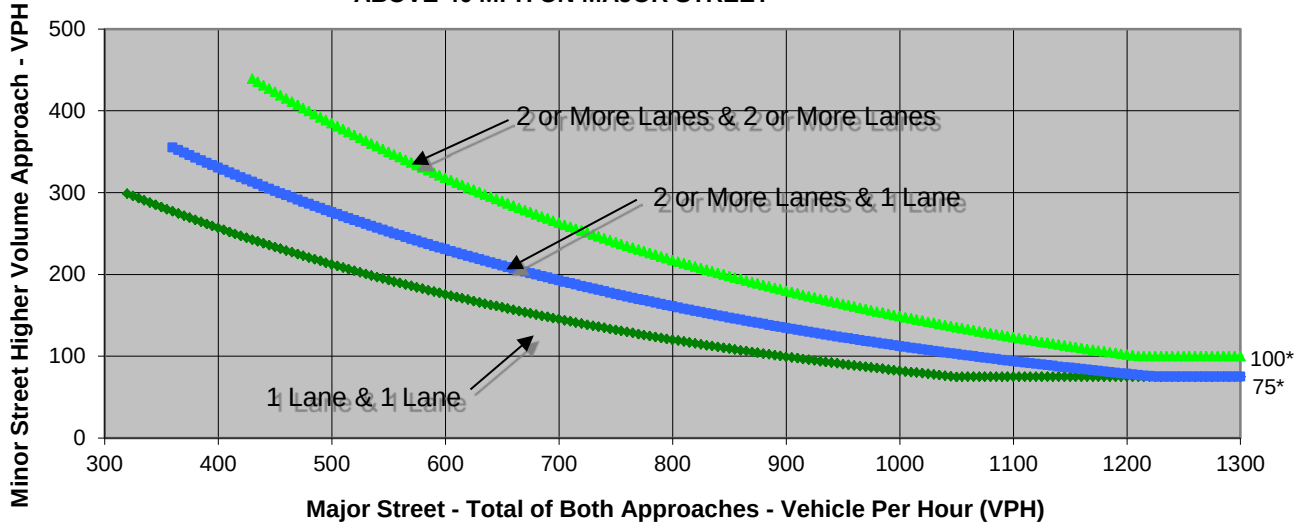
	NB	SB	EB	WB
Left	270	100	70	110
Through	560	660		
Right				
Total	830	760	70	110

Major Street Direction

X	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Roselle Avenue	NCC SPUI	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,590**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 No Project
Peak Hour	AM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

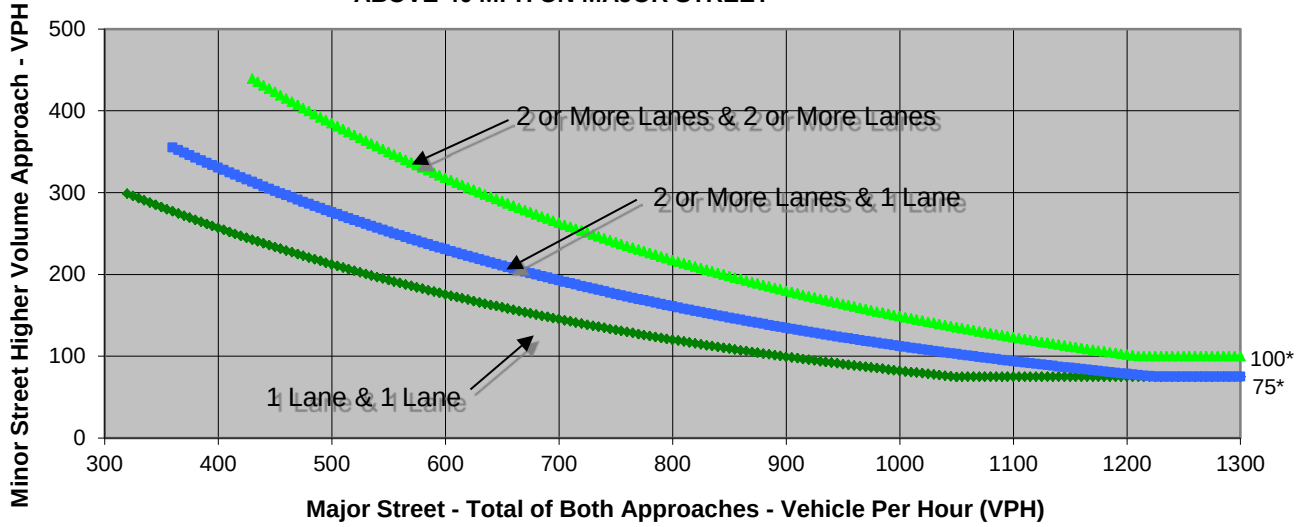
	NB	SB	EB	WB
Left	190			350
Through			550	660
Right	270		160	
Total	460	0	710	1,010

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,720**	**460**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 No Project
Peak Hour	PM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

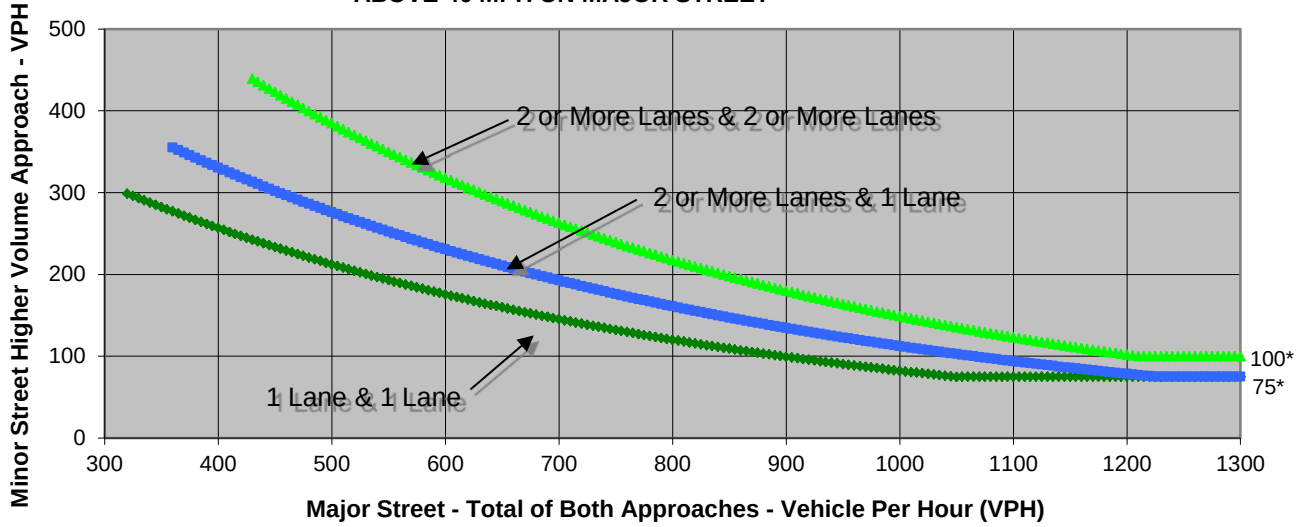
	NB	SB	EB	WB
Left	220			280
Through			660	530
Right	310		220	
Total	530	0	880	810

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,690**	**530**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

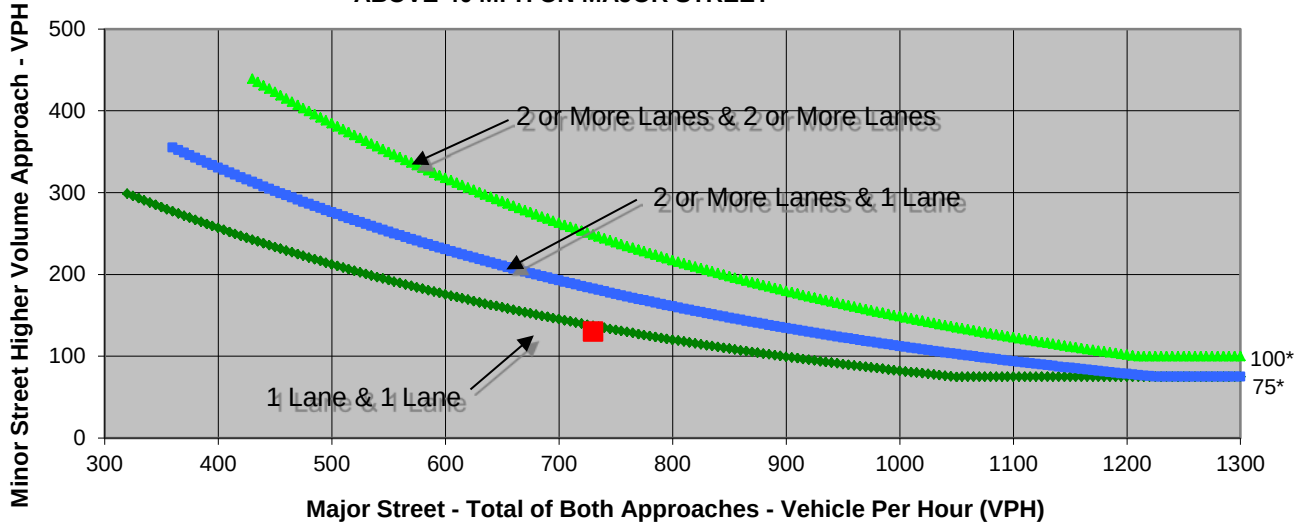
	NB	SB	EB	WB
Left	110			100
Through			130	360
Right	20		140	
Total	130	0	270	460

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**730**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

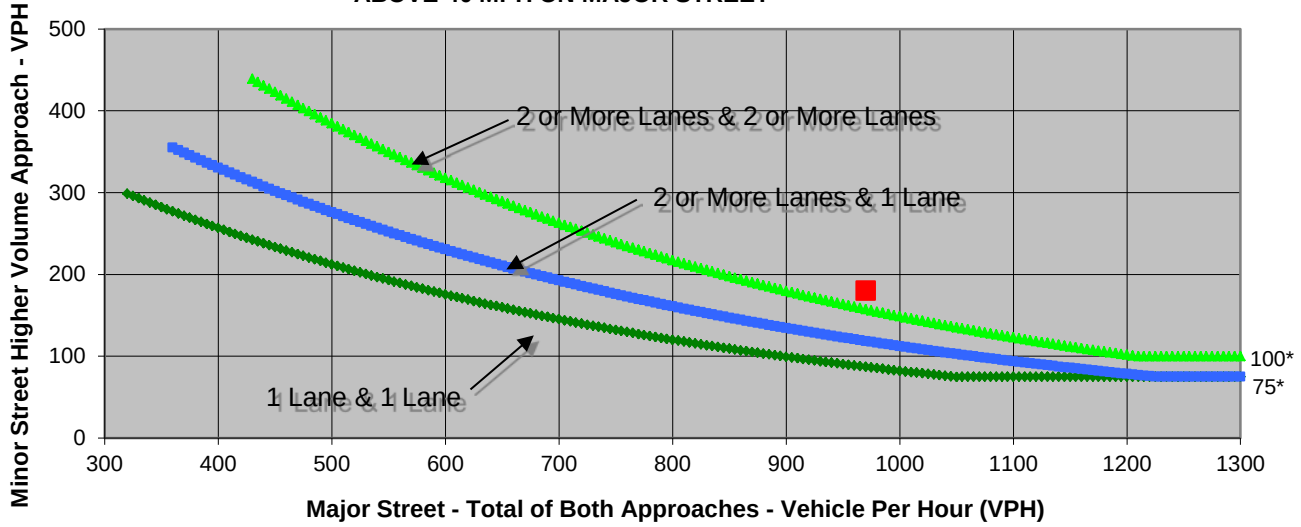
	NB	SB	EB	WB
Left	100		0	40
Through	0		490	220
Right	80		220	0
Total	180	0	710	260

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**970**	**180**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

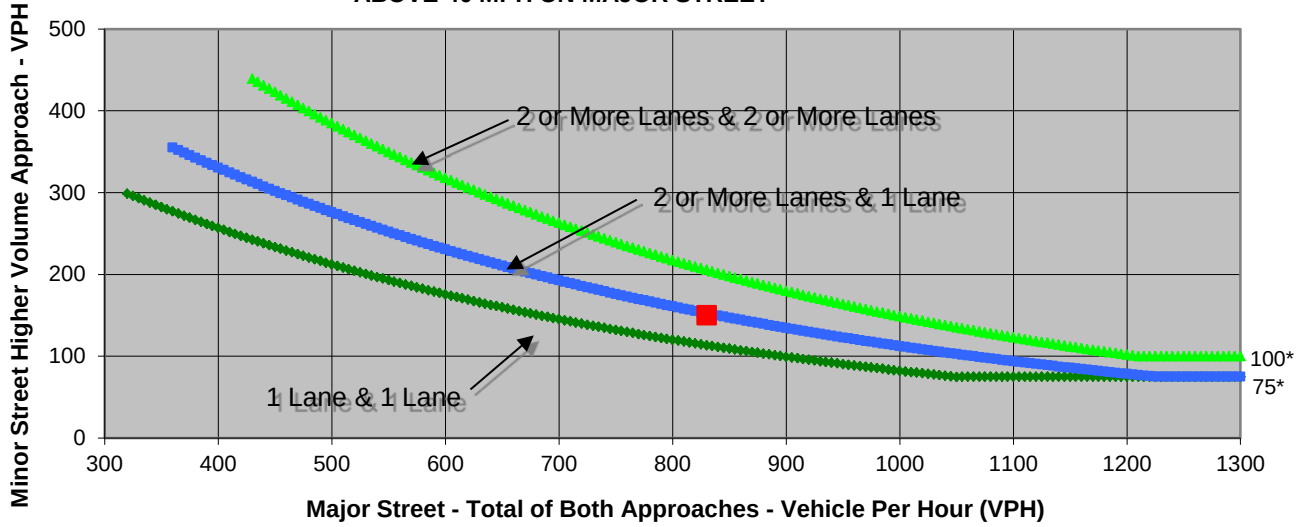
	NB	SB	EB	WB
Left	110		0	110
Through	0		180	400
Right	40		140	0
Total	150	0	320	510

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**830**	**150**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

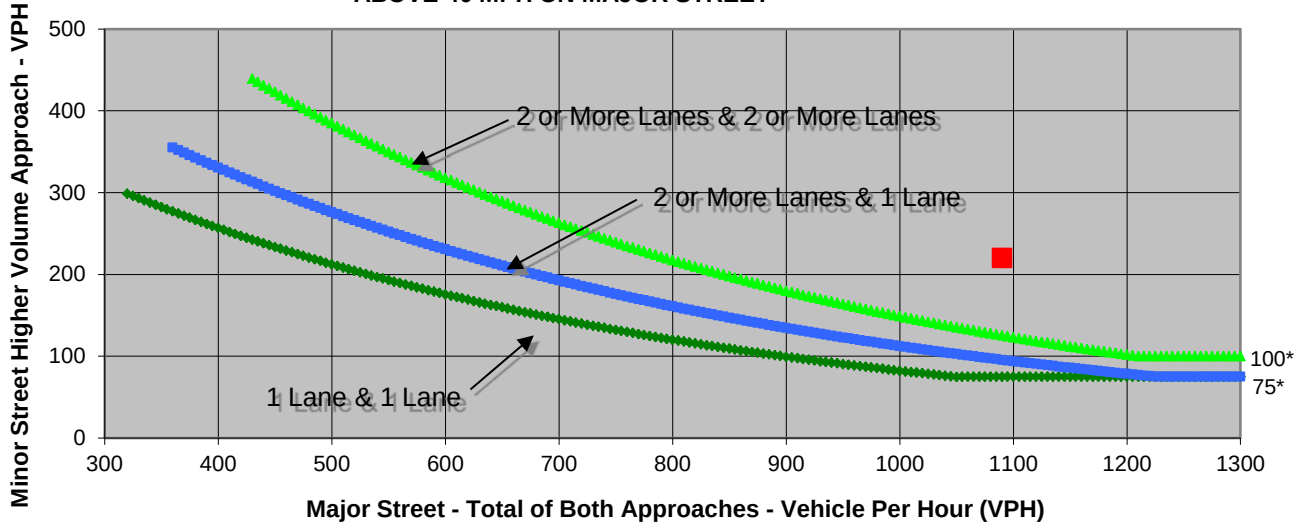
	NB	SB	EB	WB
Left	100		0	80
Through	0		540	250
Right	120		220	
Total	220	0	760	330

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,090**	**220**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

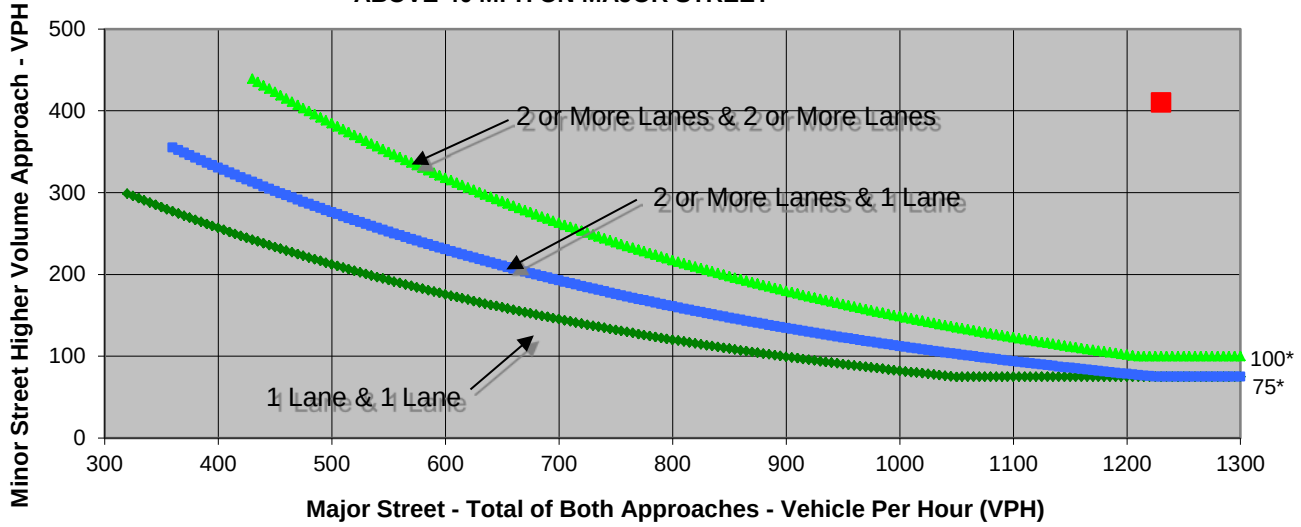
	NB	SB	EB	WB
Left	160		0	290
Through			300	480
Right	250		160	0
Total	410	0	460	770

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,230**	**410**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

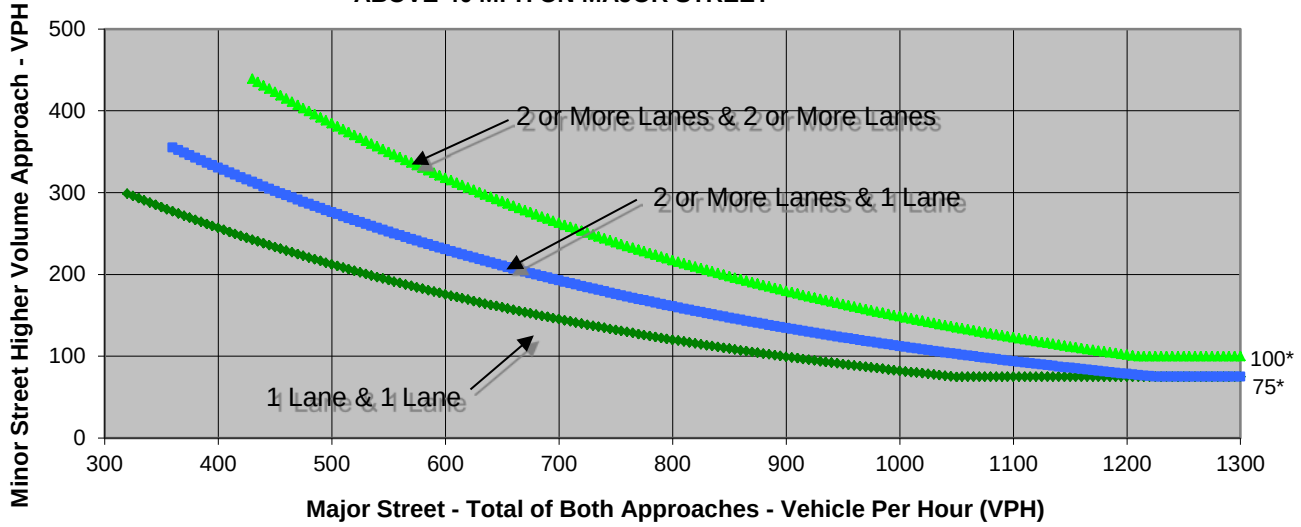
	NB	SB	EB	WB
Left	100			310
Through			610	410
Right	280		270	0
Total	380	0	880	720

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,600**	**380**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

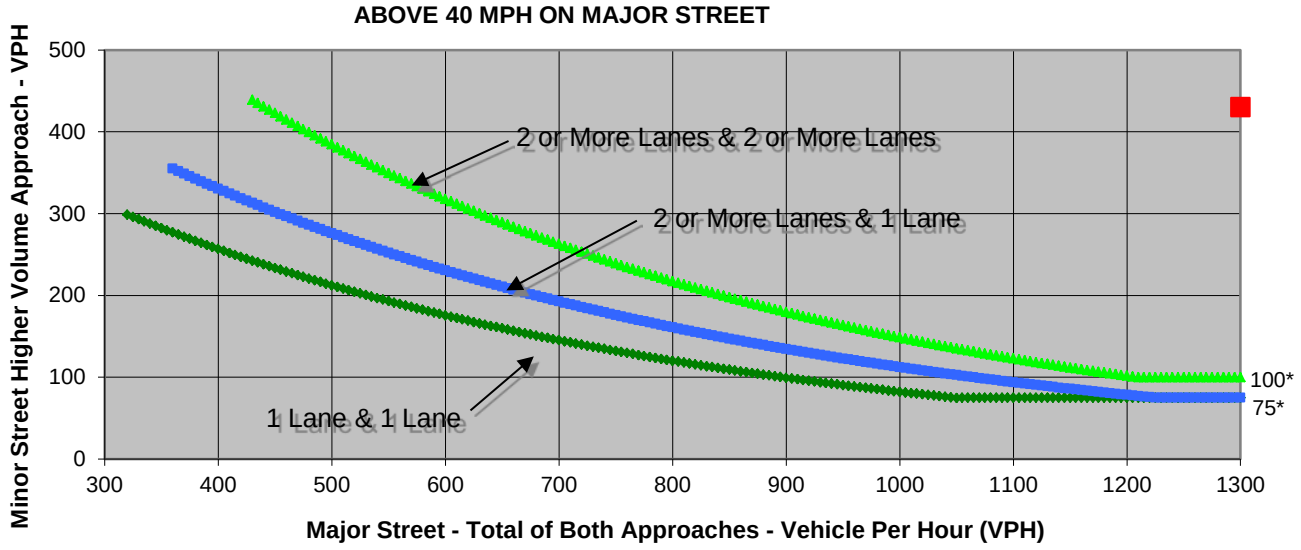
	NB	SB	EB	WB
Left	160			310
Through			320	510
Right	270		160	0
Total	430	0	480	820

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,300**	**430**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	SR 108
Minor Street	Claus Road

Turn Movement Volumes

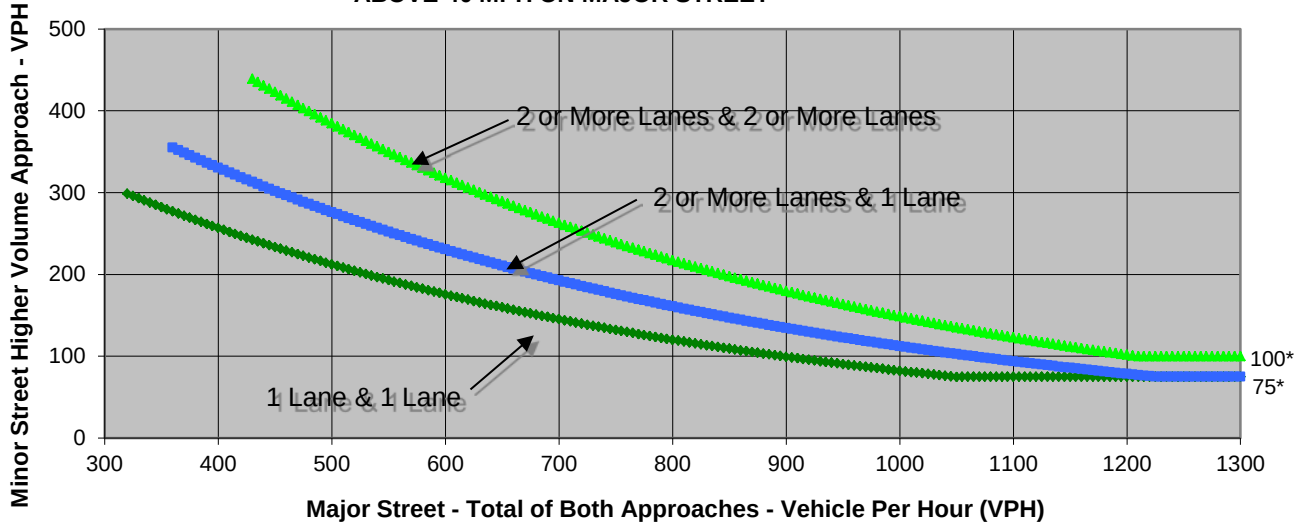
	NB	SB	EB	WB
Left	100			340
Through			640	440
Right	330		270	0
Total	430	0	910	780

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	Claus Road	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,690**	**430**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

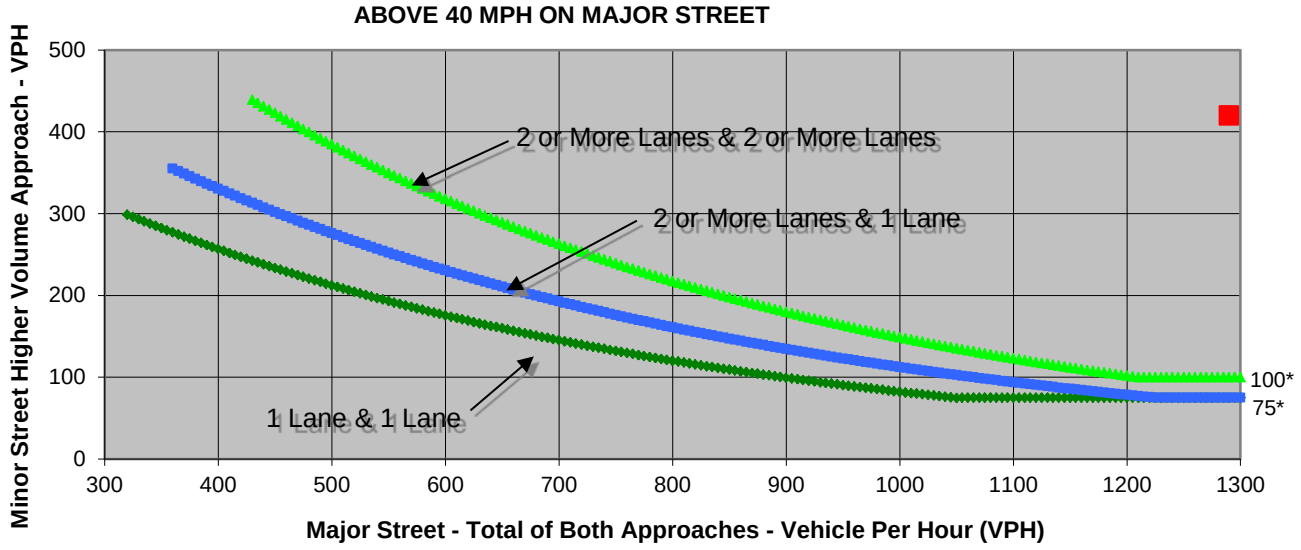
	NB	SB	EB	WB
Left	20	20	30	480
Through	10	30	250	480
Right	390	110	40	10
Total	420	160	320	970

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,290**	**420**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

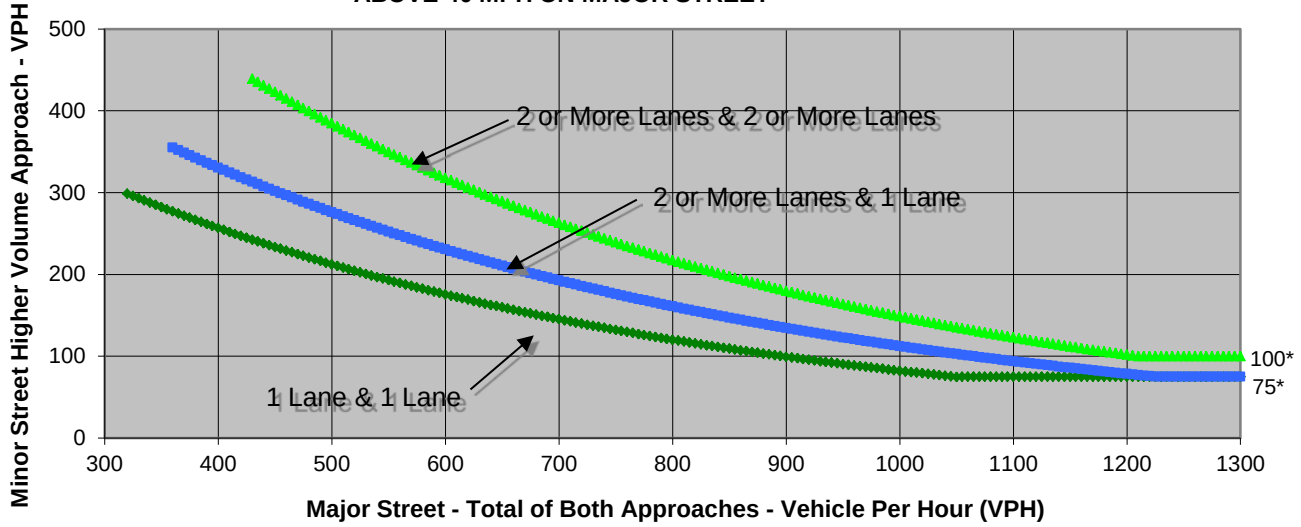
	NB	SB	EB	WB
Left	30	20	110	420
Through	40	20	410	370
Right	570	40	20	20
Total	640	80	540	810

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,350**	**640**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

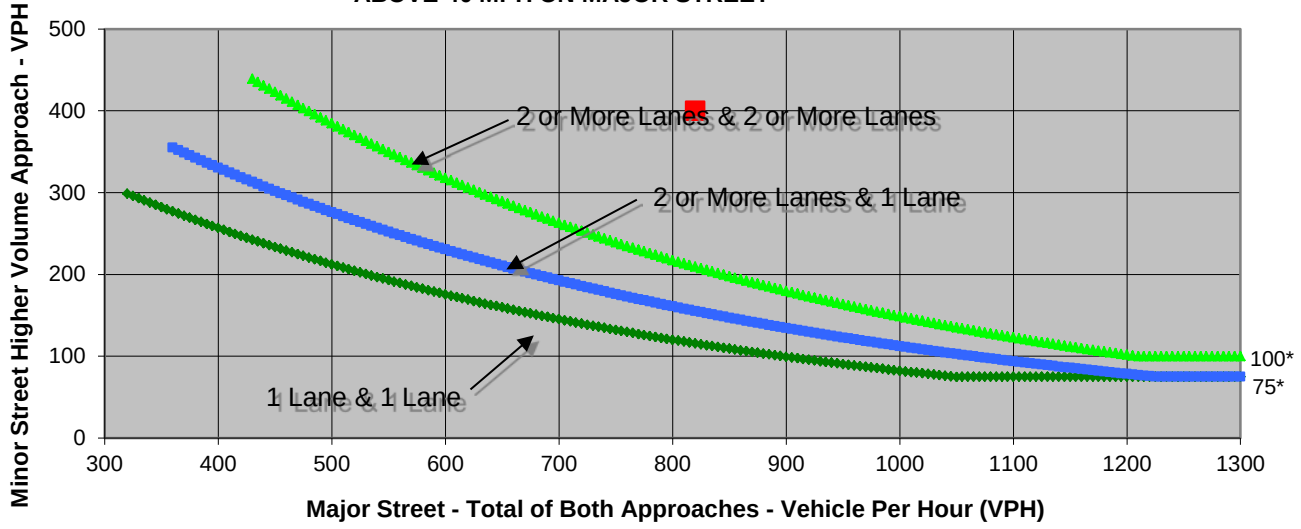
	NB	SB	EB	WB
Left	40			360
Through			180	200
Right	360		80	
Total	400	0	260	560

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**820**	**400**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

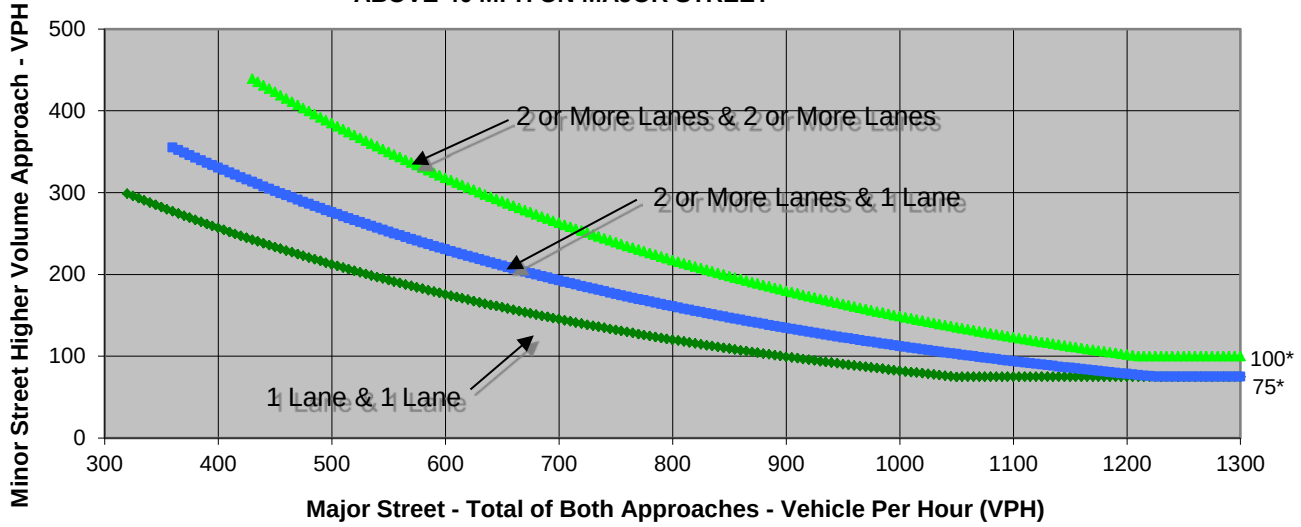
	NB	SB	EB	WB
Left	90			360
Through			220	220
Right	440		40	
Total	530	0	260	580

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**840**	**530**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

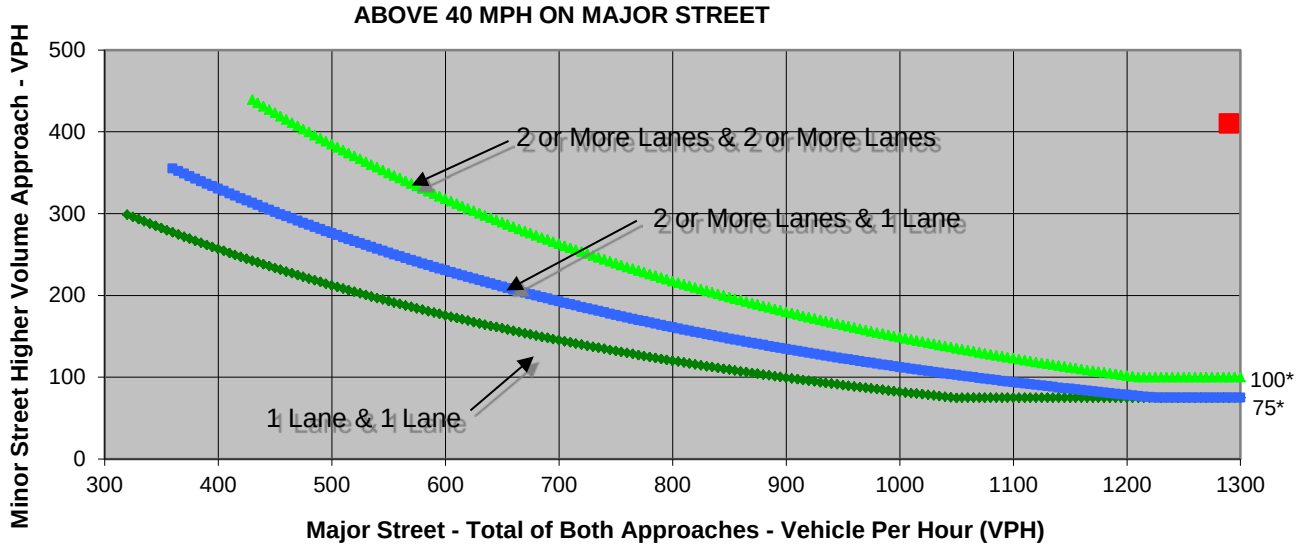
	NB	SB	EB	WB
Left	20	20	30	440
Through	10	30	260	520
Right	380	110	30	10
Total	410	160	320	970

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,290**	**410**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

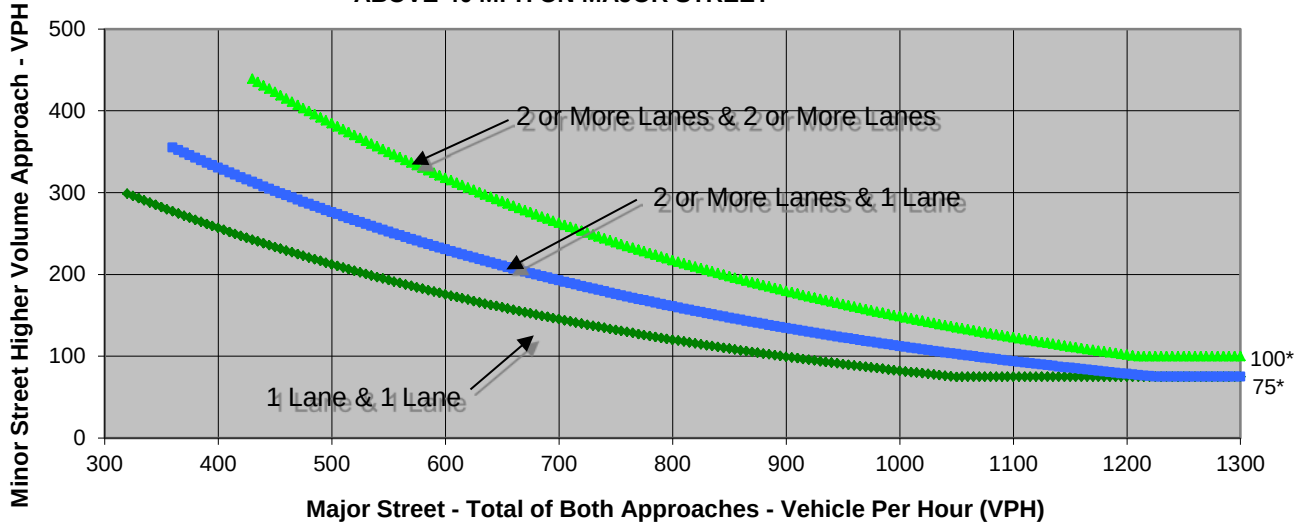
	NB	SB	EB	WB
Left	30	20	110	390
Through	40	20	440	400
Right	540	40	20	20
Total	610	80	570	810

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,380**	**610**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	AM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

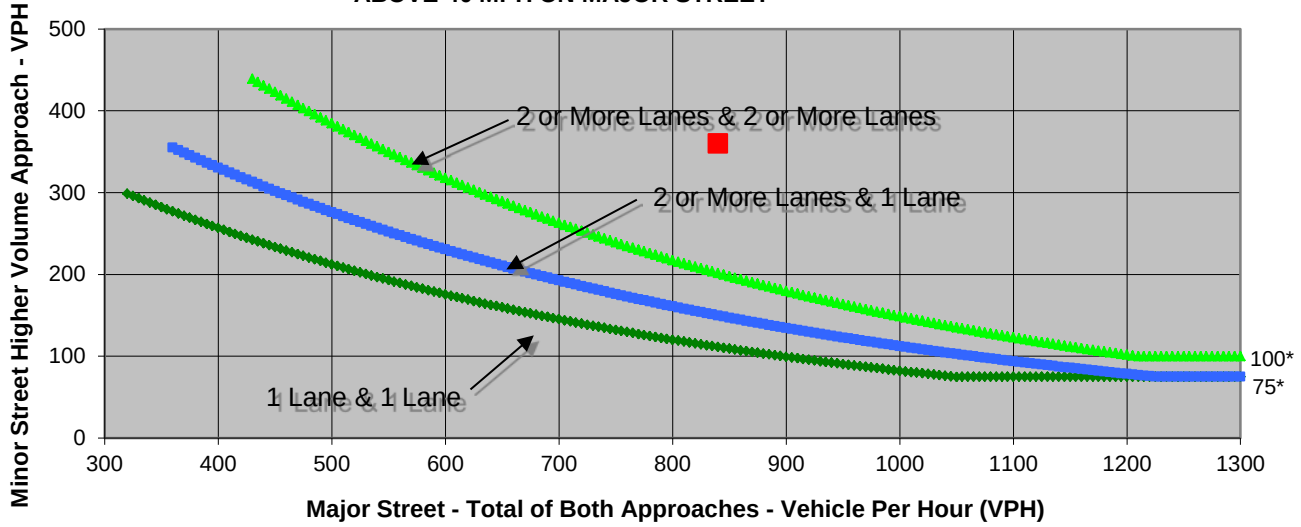
	NB	SB	EB	WB
Left	30			320
Through			210	230
Right	330		80	
Total	360	0	290	550

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**840**	**360**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2B
Peak Hour	PM

Major Street	SR 108
Minor Street	NCC

Turn Movement Volumes

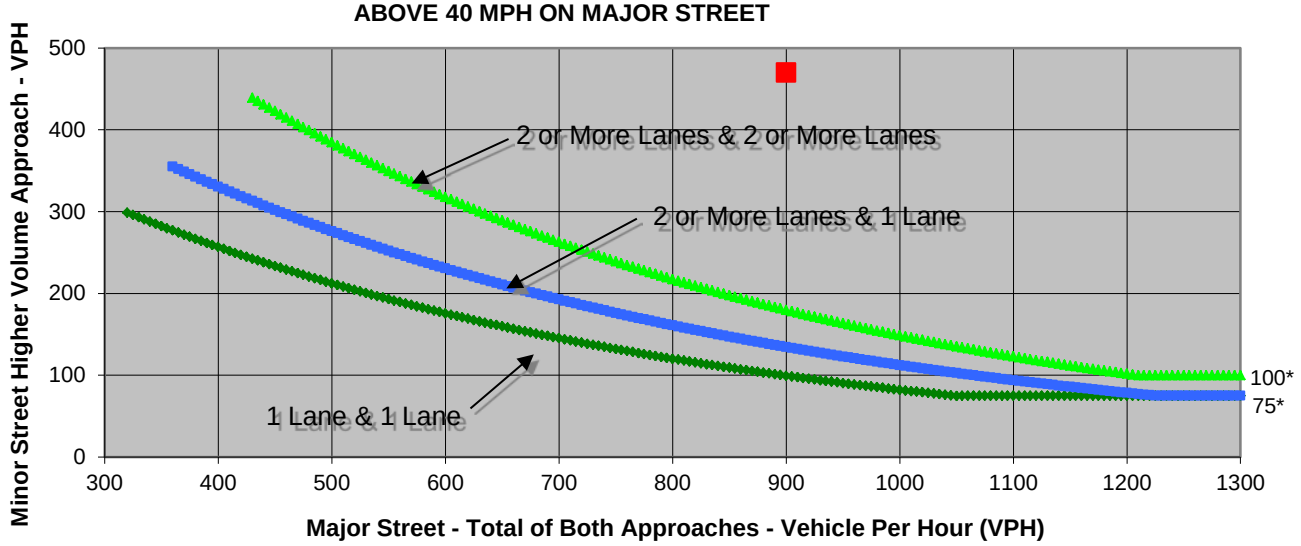
	NB	SB	EB	WB
Left	80			320
Through			270	260
Right	390		50	
Total	470	0	320	580

Major Street Direction

	North/South
x	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	SR 108	NCC	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**900**	**470**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	AM

Major Street	Stearns Road
Minor Street	Stearns Connection

Turn Movement Volumes

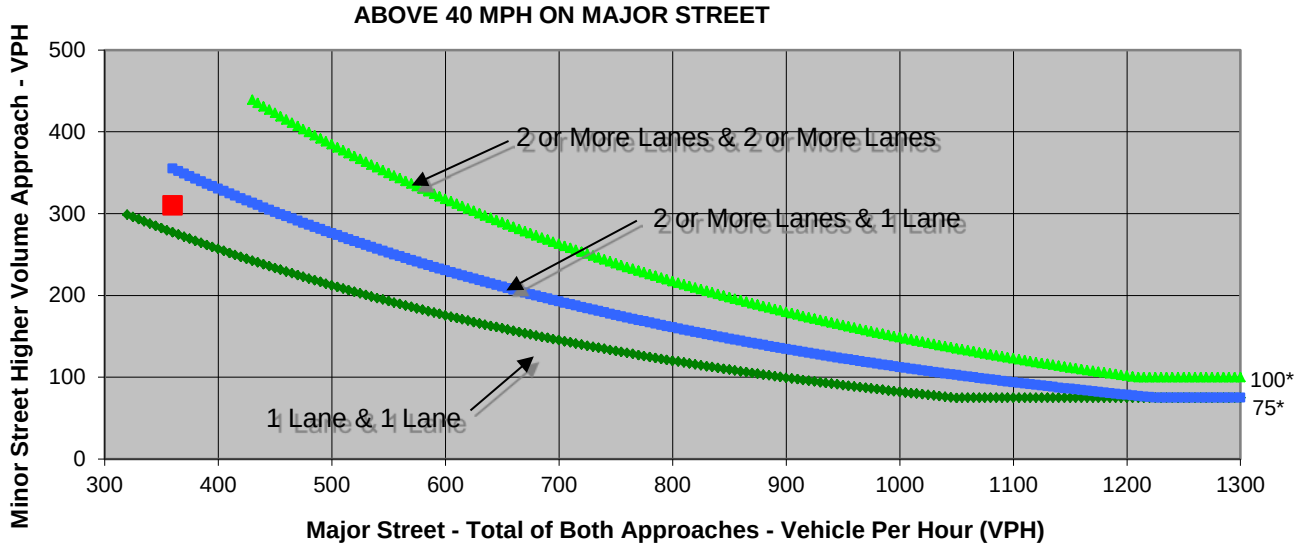
	NB	SB	EB	WB
Left	0	280	0	40
Through	20	20	0	0
Right	40	0	0	270
Total	60	300	0	310

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Stearns Road	Stearns Connection	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**360**	**310**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1A
Peak Hour	PM

Major Street	Stearns Road
Minor Street	Stearns Connection

Turn Movement Volumes

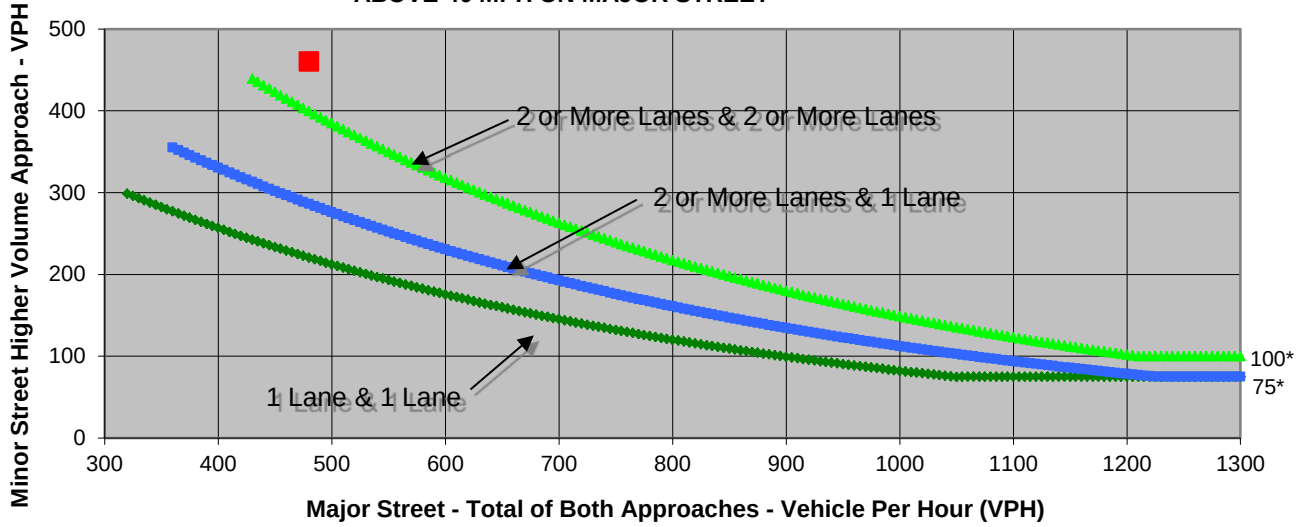
	NB	SB	EB	WB
Left	0	370	0	60
Through	30	30	0	0
Right	50	0	0	400
Total	80	400	0	460

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Stearns Road	Stearns Connection	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**480**	**460**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	AM

Major Street	Stearns Road
Minor Street	Stearns Connection

Turn Movement Volumes

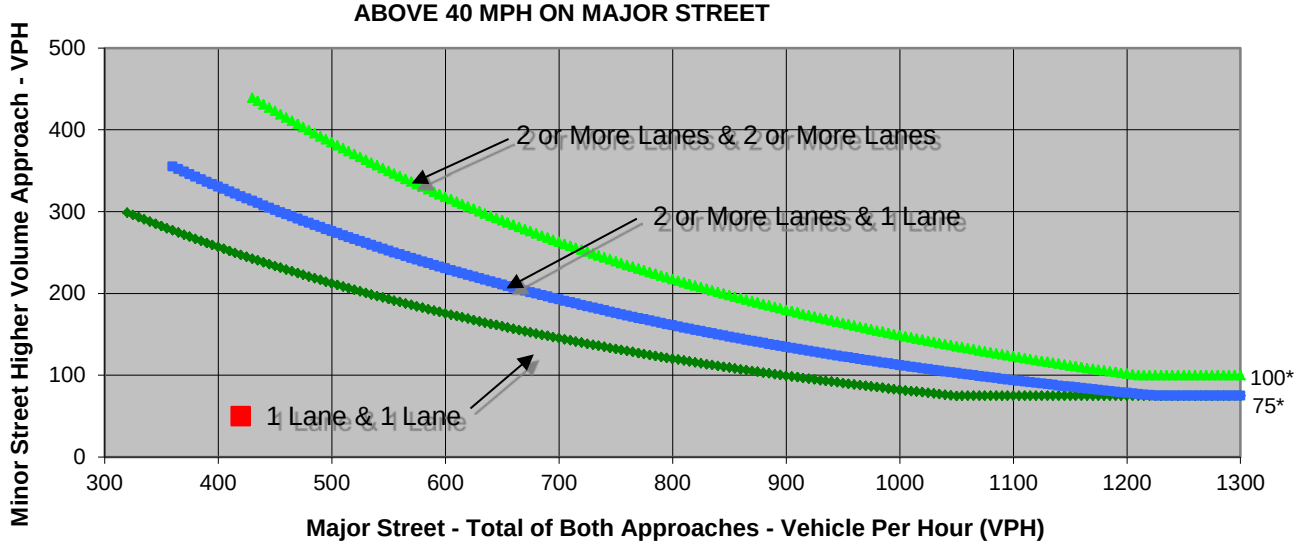
	NB	SB	EB	WB
Left	20	20	20	20
Through	180	160	10	10
Right	20	20	20	20
Total	220	200	50	50

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Stearns Road	Stearns Connection	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**420**	**50**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 1B
Peak Hour	PM

Major Street	Stearns Road
Minor Street	Stearns Connection

Turn Movement Volumes

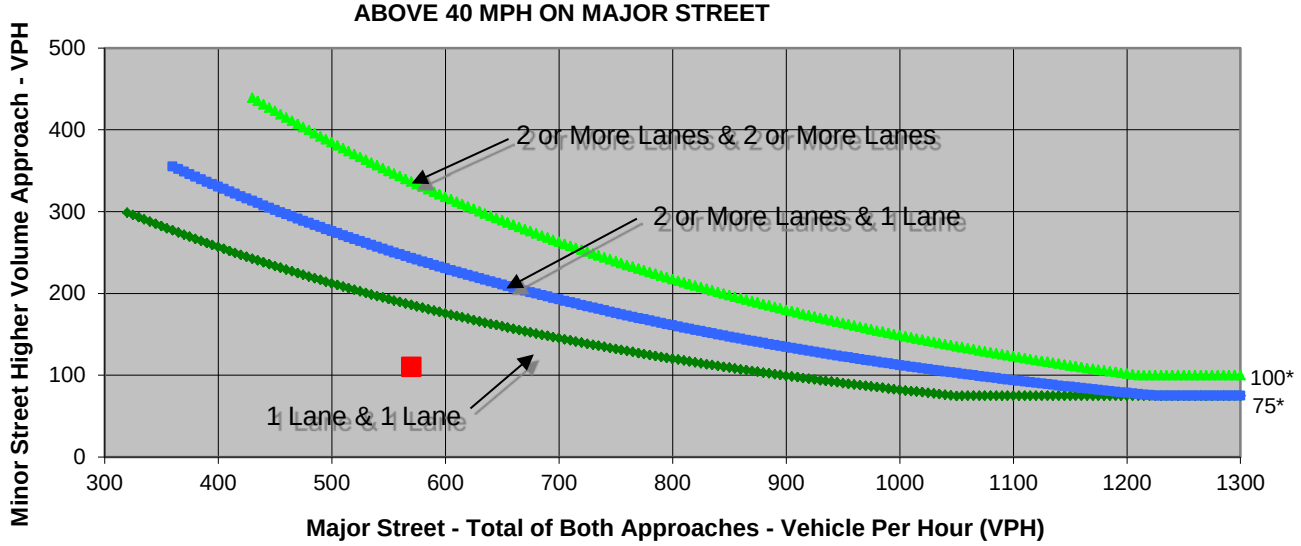
	NB	SB	EB	WB
Left	50	50	50	50
Through	200	170	10	10
Right	50	50	50	50
Total	300	270	110	110

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Stearns Road	Stearns Connection	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**570**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	AM

Major Street	Stearns Road
Minor Street	Stearns Connection

Turn Movement Volumes

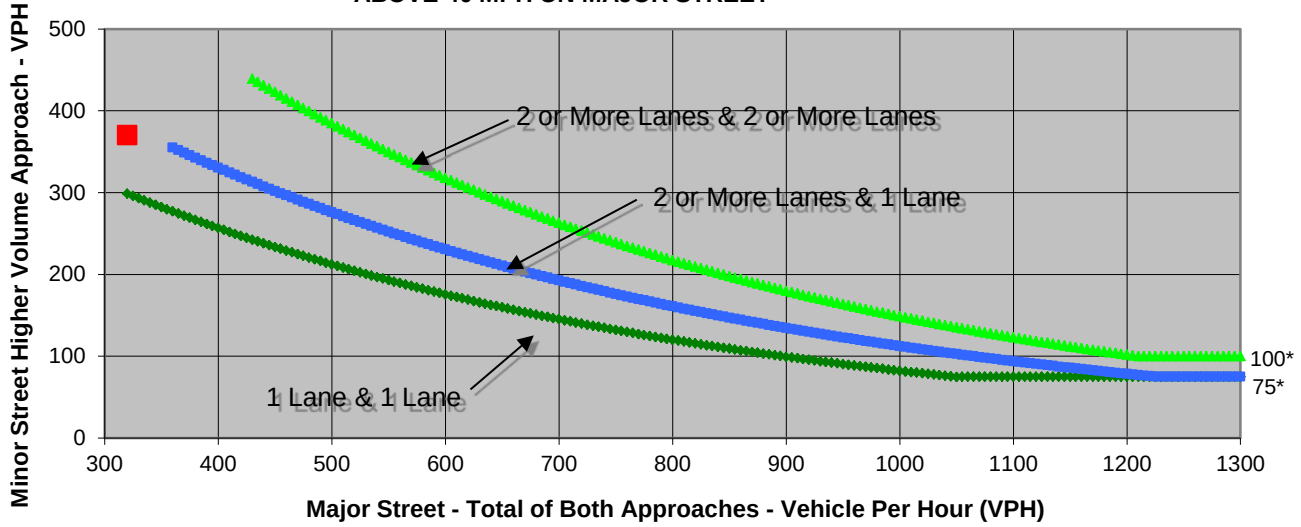
	NB	SB	EB	WB
Left		240		40
Through	40	20		
Right	20			330
Total	60	260	0	370

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Stearns Road	Stearns Connection	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**320**	**370**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1

Project	NCC
Scenario	2042 Project Alt. 2A
Peak Hour	PM

Major Street	Stearns Road
Minor Street	Stearns Connection

Turn Movement Volumes

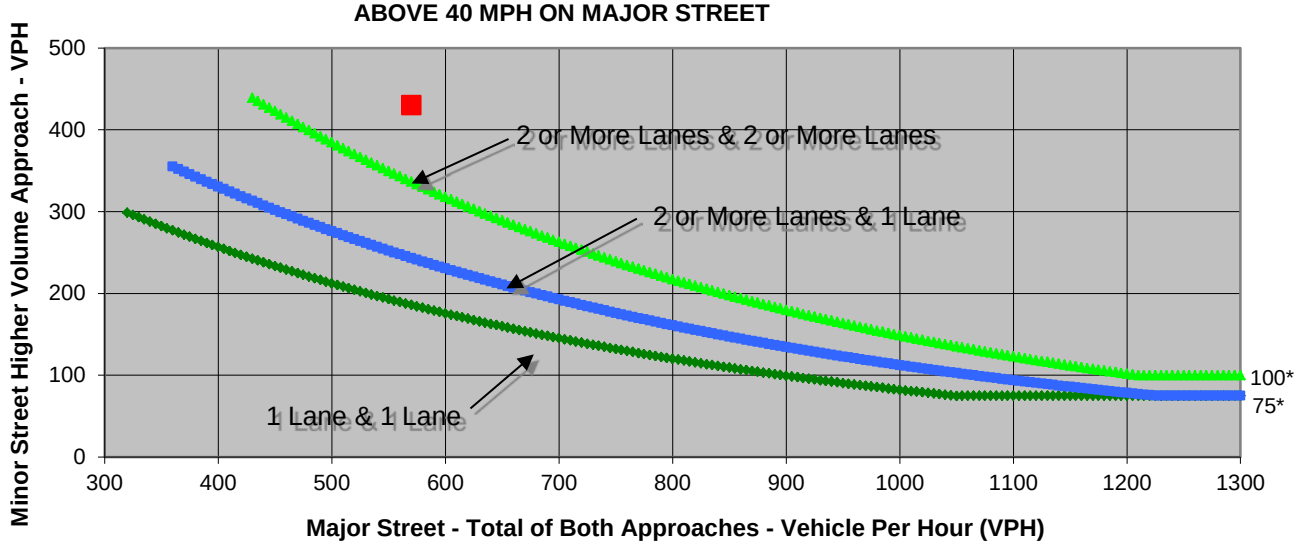
	NB	SB	EB	WB
Left		450		40
Through	30	30		
Right	60			390
Total	90	480	0	430

Major Street Direction

x	North/South
	East/West

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR

ABOVE 40 MPH ON MAJOR STREET



* Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Stearns Road	Stearns Connection	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**570**	**430**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

APPENDIX T:
2042 INTERSECTION ANALYSIS CALCULATION WORKSHEETS

SimTraffic Performance Report
2042 No Project AM Peak Hour
3/27/2014

1: Carver & SR 219 (Kiernan Ave) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.4	0.2	1.2	0	0	0	2.2	0.8	0.7	2.5	0.3	0.3	0.4
Total Del/Veh (s)	54.1	27.3	9.4	48.5	33.1	14.4	52.5	24.8	12.3	51.7	48.4	34.9	32.5
Vehicles Exited	79	993	167	88	1366	73	242	79	57	45	134	111	3434
Hourly Exit Rate	79	993	167	88	1366	73	242	79	57	45	134	111	3434
Input Volume	70	1040	160	90	1423	70	220	80	40	30	140	100	3463
% of Volume	112	95	105	98	96	104	110	98	143	151	96	111	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.2	0.1	0.2	0.2	0
Total Del/Veh (s)	37.8	29.6	27.8	37.1	20.4	5.4	33.1	23.3	6.3	39.1	38.8	20.1	25.8
Vehicles Exited	37	609	451	339	1250	22	207	104	158	40	98	65	3380
Hourly Exit Rate	37	609	451	339	1250	22	207	104	158	40	98	65	3380
Input Volume	50	601	460	360	1300	30	220	90	170	40	110	60	3491
% of Volume	74	101	98	94	96	74	94	116	93	101	89	108	97
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.6	0.6	0.8	0	0	0	0	0	0	0.2	0.2	0.2	0.2
Total Del/Veh (s)	78.8	37.9	31.5	133	76	49.7	57.4	41.1	33.3	68.5	59.1	59.7	56.7
Vehicles Exited	194	467	71	16	537	128	32	455	22	80	612	226	2840
Hourly Exit Rate	194	467	71	16	537	128	32	455	22	80	612	226	2840
Input Volume	200	450	70	20	660	150	40	471	20	80	580	240	2982
% of Volume	97	104	101	79	81	85	81	97	109	100	105	94	95
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	17.7	5.7	9.6	0.4	16.6	12.8
Vehicles Exited	190	11	497	153	706	1557
Hourly Exit Rate	190	11	497	153	706	1557
Input Volume	230	20	510	140	675	1575
% of Volume	83	54	97	109	105	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	112	111	0	66
Total Del/Veh (s)	20.3	9.2	238	325	6.1	184
Vehicles Exited	548	18	188	685	151	1590
Hourly Exit Rate	548	18	188	685	151	1590
Input Volume	534	20	230	830	140	1755
% of Volume	103	89	82	83	108	91
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	22	84	0	106

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	2.9	0.2	0.2	0	0	0	0.1
Total Del/Veh (s)	67.2	24.9	6.4	129	217	216	231	39.2	4.3	66	39.2	32.9	112
Vehicles Exited	140	474	149	307	1269	72	134	491	122	50	558	285	4051
Hourly Exit Rate	140	474	149	307	1269	72	134	491	122	50	558	285	4051
Input Volume	140	450	160	290	1350	90	130	510	140	50	530	280	4121
% of Volume	100	105	93	106	94	80	103	96	87	100	105	102	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.2	272	267	259	1.1	0.7	0.6	2.4	0.1	0.1	111
Total Del/Veh (s)	414	40.5	10	444	458	449	680	62.9	28.1	53.4	31	19.8	267
Vehicles Exited	233	907	227	202	1511	442	378	976	170	151	650	121	5968
Hourly Exit Rate	233	907	227	202	1511	442	378	976	170	151	650	121	5968
Input Volume	260	890	240	300	1920	590	490	960	160	160	610	130	6709
% of Volume	90	102	94	67	79	75	77	102	106	95	107	93	89
Denied Entry Before	0	0	0	0	0	0	0	0	0	1	1	0	2
Denied Entry After	0	0	0	61	351	111	0	3	0	0	0	0	526

8: Coffee Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	3.5	0.5	0.2	2.9	1.1	2.5	0.6
Total Del/Veh (s)	62.5	22.8	6.7	51.6	35.8	12.9	53.5	27.6	1.7	62.7	42.3	5.6	28.5
Vehicles Exited	84	463	289	100	1187	34	158	121	147	25	292	404	3304
Hourly Exit Rate	84	463	289	100	1187	34	158	121	147	25	292	404	3304
Input Volume	80	471	260	110	1200	30	160	120	130	30	290	380	3260
% of Volume	105	98	111	91	99	114	99	101	113	84	101	106	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.3	0.1	2.7	0.7	0.1	0.1	3	0.1	0.2	2.4	0.2	2.7	0.9
Total Del/Veh (s)	73.4	40.4	8	153	149	129	62.5	22.6	12.2	61.6	38.5	63	90
Vehicles Exited	148	660	232	211	1708	69	434	206	137	59	328	565	4757
Hourly Exit Rate	148	660	232	211	1708	69	434	206	137	59	328	565	4757
Input Volume	150	720	250	220	1800	60	460	230	150	60	300	560	4959
% of Volume	99	92	93	96	95	115	94	90	91	98	109	101	96
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	1	1
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	1	1

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2	0.1	0.1	0.3	0.2	0.2	1.4	0.2	0.1	2.2	0.5	2.3	0.5
Total Del/Veh (s)	62.2	26.4	18.6	52.2	23.5	23	45.6	35.6	37.1	63.4	42.4	13.9	33.2

Vehicles Exited	97	512	89	279	656	49	141	79	244	59	140	130	2475
Hourly Exit Rate	97	512	89	279	656	49	141	79	244	59	140	130	2475
Input Volume	90	480	100	260	650	50	140	90	220	70	140	120	2410
% of Volume	108	107	89	107	101	98	101	88	111	84	100	108	103
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	2.7	0.3	2.7	3.3	0.9	3.2	0.3	0.1	0.2	0.8
Total Del/Veh (s)	66	53.2	37.9	66.9	37.9	5.2	157	44.4	18.6	97.4	58	13.4	50.5
Vehicles Exited	116	438	53	262	655	66	97	389	138	108	513	224	3059
Hourly Exit Rate	116	438	53	262	655	66	97	389	138	108	513	224	3059
Input Volume	110	440	60	250	700	70	90	380	150	100	520	220	3090
% of Volume	105	100	88	105	94	94	108	102	92	108	99	102	99
Denied Entry Before	0	0	0	0	0	0	0	0	1	0	0	0	1
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.2	2.8	2.6	0.1	2.8	0.4	0.1	0.2	1.6	0.4	1.7	0.7
Total Del/Veh (s)	82.5	35.7	3.7	59.4	65.9	7.8	42.5	12.1	4.4	85.3	48.2	37.3	43.1
Vehicles Exited	172	446	287	39	858	28	787	377	39	40	655	478	4206
Hourly Exit Rate	172	446	287	39	858	28	787	377	39	40	655	478	4206
Input Volume	170	450	300	30	850	30	800	380	40	30	670	450	4199
% of Volume	101	99	96	131	101	94	98	99	98	134	98	106	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	1	1
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.2	33.2	36.7	41	3.8	0.4	0.5	2.4	1	2.7	13.3
Total Del/Veh (s)	177	114	107	377	326	307	30.3	48.6	43.7	54.3	53	17.7	162
Vehicles Exited	142	568	55	34	493	221	76	233	47	193	178	153	2393
Hourly Exit Rate	142	568	55	34	493	221	76	233	47	193	178	153	2393
Input Volume	130	540	40	40	510	260	70	250	50	180	200	160	2430

% of Volume	109	105	138	86	97	85	108	93	94	107	89	96	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	1	32	12	0	0	0	0	0	0	45

14: Roselle & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	240	203	243	322	351	362	2	0.4	0.3	1.8	0.6	0.5	161
Total Del/Veh (s)	456	477	452	387	312	300	214	46.2	10.4	207	209	223	264
Vehicles Exited	20	343	103	282	362	71	110	324	256	63	370	85	2389
Hourly Exit Rate	20	343	103	282	362	71	110	324	256	63	370	85	2389
Input Volume	40	400	160	340	420	90	130	360	250	80	400	90	2760
% of Volume	50	86	64	83	86	79	84	90	102	79	92	95	87
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	7	63	33	69	79	15	1	0	0	0	0	0	267

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.8	3.5	0.5
Total Del/Veh (s)	19.1	12.6	27.8	4.8	32.3	11.4	16.1
Vehicles Exited	569	152	365	684	218	263	2251
Hourly Exit Rate	569	152	365	684	218	263	2251
Input Volume	550	160	350	660	190	270	2179
% of Volume	104	95	104	104	115	97	103
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.3	0.8	3.2	2.3	1.5	2.4	2.5	0.2	0.3	1.4	0.1	0.3	1
Total Del/Veh (s)	73	52.1	28.9	43.7	34	15	61.9	75.9	76.5	68.8	49.3	45	54.7
Vehicles Exited	165	317	55	452	393	51	32	494	374	45	606	146	3130
Hourly Exit Rate	165	317	55	452	393	51	32	494	374	45	606	146	3130
Input Volume	150	320	40	460	410	50	30	500	360	40	610	150	3118
% of Volume	110	99	138	98	96	102	108	99	104	113	99	97	100
Denied Entry Before	0	1	0	1	0	0	0	0	0	0	0	0	2
Denied Entry After	0	0	0	1	0	0	0	0	0	0	0	0	1

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	3.2	1	0.2	0.2	0.9	2.8	1.8
Total Del/Veh (s)	25.7	10.1	31.2	18.5	19	11.9	17.5
Vehicles Exited	263	378	223	71	86	466	1487
Hourly Exit Rate	263	378	223	71	86	466	1487
Input Volume	260	390	220	80	100	450	1500
% of Volume	101	97	101	88	86	104	99
Denied Entry Before	1	0	0	0	0	2	3
Denied Entry After	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.4	0.5	0.3	0.5	0.5	0.2	0.1	4	0.2	0.3	3.9	0.6
Total Del/Veh (s)	7.4	4.9	3.9	4.2	3.9	1.8	14.7	21.2	8.1	22.1	29	7.6	7.1
Vehicles Exited	97	355	27	26	431	59	33	28	32	62	44	35	1229
Hourly Exit Rate	97	355	27	26	431	59	33	28	32	62	44	35	1229
Input Volume	100	340	30	30	420	50	30	40	30	50	40	30	1188
% of Volume	97	104	91	87	103	118	111	70	108	124	111	118	103
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.6	0.6	0.7	3.9	0.5	0.5	2.4	0.6	2.2	0.8
Total Del/Veh (s)	32.9	14.6	12.9	40	16.1	8.9	27.3	17.4	9.1	23.4	17.4	5.6	16.9
Vehicles Exited	74	728	64	73	590	68	109	66	51	136	93	149	2201
Hourly Exit Rate	74	728	64	73	590	68	109	66	51	136	93	149	2201
Input Volume	80	730	60	60	620	80	110	70	40	130	80	150	2210
% of Volume	92	100	107	122	95	85	99	94	128	104	116	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	1	1

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	443	487	451	0.5	0.3	0.3	2.2	0.9	1.9	0.1	0.2	0.1	114
Total Del/Veh (s)	448	352	376	244	156	37.9	53.2	53	14.8	144	115	102	163
Vehicles Exited	78	487	70	225	475	402	98	339	214	390	335	95	3208
Hourly Exit Rate	78	487	70	225	475	402	98	339	214	390	335	95	3208
Input Volume	100	680	90	240	520	420	110	330	200	430	380	90	3589
% of Volume	78	72	78	94	91	96	89	103	107	91	88	106	89
Denied Entry Before	0	2	0	0	0	0	0	0	0	0	0	0	2
Denied Entry After	28	132	21	0	0	0	0	0	0	0	0	0	181

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.3	0.2	0.2	0.5	0.2	0.2	2.2	0.8	2.3	0.2	0.3	0.3	0.6
Total Del/Veh (s)	45.3	28.7	25.7	48.8	22.2	18.7	53.3	25.6	8.9	42.4	32.3	15.5	29.5
Vehicles Exited	70	766	180	166	785	48	288	118	108	49	161	145	2884
Hourly Exit Rate	70	766	180	166	785	48	288	118	108	49	161	145	2884
Input Volume	70	750	180	170	790	50	280	120	100	50	160	140	2860
% of Volume	100	102	100	98	99	96	103	98	108	98	101	103	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.2	3.5	0.9	3.4	3.3	1.3	2.5	2.6	0.2	0.3	1.1
Total Del/Veh (s)	88.2	48.7	10.6	48.6	59.1	15.9	97.5	36.5	14.1	56.3	57.3	46.5	53.3
Vehicles Exited	219	46	27	31	237	177	183	688	14	113	889	101	2725
Hourly Exit Rate	219	46	27	31	237	177	183	688	14	113	889	101	2725
Input Volume	200	50	40	30	240	160	170	720	20	110	860	120	2719
% of Volume	110	92	68	104	99	111	108	96	69	103	103	84	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	1	0	0	0	0	0	1

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.6	1	3.6	2.5	0.5	0.3	2.9	0.2	0.3	2.9	0.3	3.1	1.2
Total Del/Veh (s)	47.3	27.2	8.1	46.2	51.8	36.3	56.8	27.4	18.8	47.6	35.9	9.3	33.5

Vehicles Exited	257	71	107	37	199	25	101	620	50	28	606	181	2282
Hourly Exit Rate	257	71	107	37	199	25	101	620	50	28	606	181	2282
Input Volume	240	80	100	40	190	30	120	600	40	30	650	190	2310
% of Volume	107	88	107	93	105	84	84	103	126	94	93	95	99
Denied Entry Before	0	0	0	0	1	0	0	0	0	0	0	0	1
Denied Entry After	0	0	0	0	0	0	1	0	0	0	0	0	1

24: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	267	267
Hourly Exit Rate	267	267
Input Volume	279	279
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

25: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	2117	2117
Hourly Exit Rate	2117	2117
Input Volume	2100	2100
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

26: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	239	239
Hourly Exit Rate	239	239
Input Volume	230	230

% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

27: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	772	772
Hourly Exit Rate	772	772
Input Volume	770	770
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

28: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	687	687
Hourly Exit Rate	687	687
Input Volume	670	670
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

29: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	830	830
Hourly Exit Rate	830	830
Input Volume	820	820
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

30: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	892	892
Hourly Exit Rate	892	892
Input Volume	930	930
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

31: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.8	0.5
Total Del/Veh (s)	6.1	4	4.9
Vehicles Exited	710	893	1603
Hourly Exit Rate	710	893	1603
Input Volume	740	860	1600
% of Volume	96	104	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

32: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	333	333
Hourly Exit Rate	333	333
Input Volume	340	340
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

33: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	1095	1095
Hourly Exit Rate	1095	1095
Input Volume	1150	1150
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

34: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.6	5.6
Vehicles Exited	1116	1116
Hourly Exit Rate	1116	1116
Input Volume	1110	1110
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

35: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	1091	1091
Hourly Exit Rate	1091	1091
Input Volume	1310	1310
% of Volume	83	83
Denied Entry Before	0	0
Denied Entry After	0	0

36: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.1	5.1

Vehicles Exited	822	822
Hourly Exit Rate	822	822
Input Volume	830	830
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

37: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	1085	1085
Hourly Exit Rate	1085	1085
Input Volume	1079	1079
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

38: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.3	7.3
Vehicles Exited	1223	1223
Hourly Exit Rate	1223	1223
Input Volume	1209	1209
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

39: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.2	10.2
Vehicles Exited	795	795
Hourly Exit Rate	795	795
Input Volume	940	940

% of Volume	85	85
Denied Entry Before	0	0
Denied Entry After	0	0

40: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.1	7.1
Vehicles Exited	717	717
Hourly Exit Rate	717	717
Input Volume	740	740
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	915	915
Hourly Exit Rate	915	915
Input Volume	900	900
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.6	7.6
Vehicles Exited	788	788
Hourly Exit Rate	788	788
Input Volume	820	820
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	11.2	11.2
Vehicles Exited	827	827
Hourly Exit Rate	827	827
Input Volume	850	850
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8	8
Vehicles Exited	1643	1643
Hourly Exit Rate	1643	1643
Input Volume	1810	1810
% of Volume	91	91
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	225	225
Hourly Exit Rate	225	225
Input Volume	230	230
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	237	237
Hourly Exit Rate	237	237
Input Volume	240	240
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	510	510
Hourly Exit Rate	510	510
Input Volume	510	510
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	172	172
Hourly Exit Rate	172	172
Input Volume	180	180
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7

Vehicles Exited	206	206
Hourly Exit Rate	206	206
Input Volume	231	231
% of Volume	89	89
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	228	228
Hourly Exit Rate	228	228
Input Volume	200	200
% of Volume	114	114
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.9	10.9
Vehicles Exited	1999	1999
Hourly Exit Rate	1999	1999
Input Volume	2540	2540
% of Volume	79	79
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.4	8.4
Vehicles Exited	948	948
Hourly Exit Rate	948	948
Input Volume	930	930

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	991	991
Hourly Exit Rate	991	991
Input Volume	1000	1000
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

54: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	739	739
Hourly Exit Rate	739	739
Input Volume	720	720
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

56: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	77	77
Hourly Exit Rate	77	77
Input Volume	70	70
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

57: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	65	65
Hourly Exit Rate	65	65
Input Volume	60	60
% of Volume	108	108
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	684	684
Hourly Exit Rate	684	684
Input Volume	660	660
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7	7
Vehicles Exited	698	698
Hourly Exit Rate	698	698
Input Volume	670	670
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

62: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	8	8
Hourly Exit Rate	8	8
Input Volume	10	10
% of Volume	78	78
Denied Entry Before	0	0
Denied Entry After	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.8	7.8
Vehicles Exited	814	814
Hourly Exit Rate	814	814
Input Volume	770	770
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.7	7.7
Vehicles Exited	561	561
Hourly Exit Rate	561	561
Input Volume	560	560
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7

Vehicles Exited	539	539
Hourly Exit Rate	539	539
Input Volume	520	520
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	521	521
Hourly Exit Rate	521	521
Input Volume	510	510
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	163	163
Hourly Exit Rate	163	163
Input Volume	170	170
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	231	231
Hourly Exit Rate	231	231
Input Volume	221	221

% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	391	391
Hourly Exit Rate	391	391
Input Volume	390	390
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

72: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	20	20
Hourly Exit Rate	20	20
Input Volume	20	20
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	1	0	0.5
Total Del/Veh (s)	4.6	6.4	5.5
Vehicles Exited	869	843	1712
Hourly Exit Rate	869	843	1712
Input Volume	870	880	1750
% of Volume	100	96	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.1	5.1
Vehicles Exited	414	414
Hourly Exit Rate	414	414
Input Volume	490	490
% of Volume	85	85
Denied Entry Before	0	0
Denied Entry After	0	0

75: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	753	753
Hourly Exit Rate	753	753
Input Volume	900	900
% of Volume	84	84
Denied Entry Before	0	0
Denied Entry After	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.1	7.1
Vehicles Exited	1712	1712
Hourly Exit Rate	1712	1712
Input Volume	1740	1740
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	479	479
Hourly Exit Rate	479	479
Input Volume	500	500
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	146	146
Hourly Exit Rate	146	146
Input Volume	150	150
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.1	5.1
Vehicles Exited	916	916
Hourly Exit Rate	916	916
Input Volume	900	900
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.8	0	0.3
Total Del/Veh (s)	0.9	2.6	1.8

Vehicles Exited	725	898	1623
Hourly Exit Rate	725	898	1623
Input Volume	710	850	1560
% of Volume	102	106	104
Denied Entry Before	0	0	0
Denied Entry After	2	0	2

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	1.3	0	0.7
Total Del/Veh (s)	1.5	6.4	3.7
Vehicles Exited	1047	831	1878
Hourly Exit Rate	1047	831	1878
Input Volume	1010	820	1829
% of Volume	104	101	103
Denied Entry Before	2	0	2
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3
Vehicles Exited	845	845
Hourly Exit Rate	845	845
Input Volume	880	880
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	751	751
Hourly Exit Rate	751	751
Input Volume	790	790

% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	892	892
Hourly Exit Rate	892	892
Input Volume	870	870
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.5	0	0.2
Total Del/Veh (s)	2.3	9.1	6.3
Vehicles Exited	649	889	1538
Hourly Exit Rate	649	889	1538
Input Volume	650	900	1550
% of Volume	100	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	501	501
Hourly Exit Rate	501	501
Input Volume	480	480
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

92: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	450	450
Hourly Exit Rate	450	450
Input Volume	420	420
% of Volume	107	107
Denied Entry Before	0	0
Denied Entry After	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	590	590
Hourly Exit Rate	590	590
Input Volume	640	640
% of Volume	92	92
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	96	96
Hourly Exit Rate	96	96
Input Volume	99	99
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	184	184
Hourly Exit Rate	184	184
Input Volume	190	190
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	466	466
Hourly Exit Rate	466	466
Input Volume	490	490
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	1213	1213
Hourly Exit Rate	1213	1213
Input Volume	1210	1210
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6

Vehicles Exited	557	557
Hourly Exit Rate	557	557
Input Volume	640	640
% of Volume	87	87
Denied Entry Before	0	0
Denied Entry After	0	0

100: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.6	5.6
Vehicles Exited	668	668
Hourly Exit Rate	668	668
Input Volume	730	730
% of Volume	91	91
Denied Entry Before	0	0
Denied Entry After	0	0

101: SR 219 (Kiernan Ave)#1 Performance by movement

Movement	EBT	EBR	WBT	WBR	All
Denied Del/Veh (s)	0	0	0	0	0
Total Del/Veh (s)	7.7	6	10.1	10.1	9.3
Vehicles Exited	743	65	1612	77	2497
Hourly Exit Rate	743	65	1612	77	2497
Input Volume	751	60	1698	70	2579
% of Volume	99	108	95	110	97
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	893	893
Hourly Exit Rate	893	893
Input Volume	900	900

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

103: Claribel Rd Performance by movement

Movement	EBT	WBT	WBR	NBR	All
Denied Del/Veh (s)	0	0	0	0.3	0
Total Del/Veh (s)	8.3	13.7	8.8	6.4	11.8
Vehicles Exited	642	1779	8	195	2624
Hourly Exit Rate	642	1779	8	195	2624
Input Volume	644	1761	10	170	2586
% of Volume	100	101	78	115	101
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	1028	1028
Hourly Exit Rate	1028	1028
Input Volume	980	980
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	427	427
Hourly Exit Rate	427	427
Input Volume	440	440
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	2707	2707
Hourly Exit Rate	2707	2707
Input Volume	2820	2820
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	932	932
Hourly Exit Rate	932	932
Input Volume	910	910
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	507	507
Hourly Exit Rate	507	507
Input Volume	500	500
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

109: Claribel Rd Performance by movement

Movement	EBT	EBR	WBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.3	0.1
Total Del/Veh (s)	5.7	5	8.8	14.1	8.6
Vehicles Exited	626	20	994	317	1957
Hourly Exit Rate	626	20	994	317	1957
Input Volume	620	20	1019	330	1989
% of Volume	101	99	98	96	98
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.9	6.9
Vehicles Exited	859	859
Hourly Exit Rate	859	859
Input Volume	930	930
% of Volume	92	92
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	582	582
Hourly Exit Rate	582	582
Input Volume	580	580
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6

Vehicles Exited	721	721
Hourly Exit Rate	721	721
Input Volume	740	740
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.5	5.5
Vehicles Exited	701	701
Hourly Exit Rate	701	701
Input Volume	689	689
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.5	5.5
Vehicles Exited	722	722
Hourly Exit Rate	722	722
Input Volume	700	700
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	900	900
Hourly Exit Rate	900	900
Input Volume	850	850

% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.6	5.6
Vehicles Exited	817	817
Hourly Exit Rate	817	817
Input Volume	770	770
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	629	629
Hourly Exit Rate	629	629
Input Volume	710	710
% of Volume	89	89
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.9	6.9
Vehicles Exited	675	675
Hourly Exit Rate	675	675
Input Volume	720	720
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

122: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.3	6.3
Vehicles Exited	571	571
Hourly Exit Rate	571	571
Input Volume	590	590
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9	9
Vehicles Exited	520	520
Hourly Exit Rate	520	520
Input Volume	530	530
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

Total Network Performance

Denied Del/Veh (s)	31.5
Total Del/Veh (s)	113
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	39
Denied Entry Before	15
Denied Entry After	1132

Queuing an AM Peak Hour
2042 No Pro ########

Intersection: 1: Carver & SR 219 (Kiernan Ave)

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	172	203	298	319	115	129	322	356	375	74	375	121	130	306
Average Queue (ft)	67	130	159	184	54	72	188	213	245	24	191	48	40	162
95th Queue (ft)	138	194	256	301	92	122	294	322	367	61	305	93	99	270
Link Distance (ft)		3295	3295	3295			2546	2546	2546			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	530				410	580				530	330		300	
Storage Blk Time (%)											1			0
Queuing Penalty (veh)											1			0

Intersection: 2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	L	T	T	T	R	L	T	R	L	TR
Maximum Queue (ft)	96	189	198	213	340	211	232	262	299	316	17	220	136	89	106	200
Average Queue (ft)	33	88	105	93	172	110	113	102	131	148	4	125	51	40	40	87
95th Queue (ft)	78	169	193	178	297	185	192	194	226	259	15	195	120	74	89	162
Link Distance (ft)		2546	2546	2546				3623	3623	3623		3678	3678			3952
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	715				355	660	660				415			400	300	
Storage Blk Time (%)					0											
Queuing Penalty (veh)					0											

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	309	526	149	505	220	111	283	282	350	572	690
Average Queue (ft)	216	301	21	496	129	40	169	157	117	308	358

95th Queue (ft)	351	465	71	503	282	92	264	248	265	490	548
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				45							
Queuing Penalty (veh)				374							
Storage Bay Dist (ft)	250		90		160	185			290		
Storage Blk Time (%)	7	12		62	0		8			16	
Queuing Penalty (veh)	36	24		106	0		3			13	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	225	300	416	297
Average Queue (ft)	84	100	167	130
95th Queue (ft)	162	197	328	258
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	387	590	3751	98
Average Queue (ft)	195	555	2841	36
95th Queue (ft)	326	760	4819	78
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)			48	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)		530		
Storage Blk Time (%)		0	54	
Queuing Penalty (veh)		0	124	

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB

Directions Served	L	L	T	T	T	R	L	L	T	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	138	134	193	221	192	108	219	1035	2548	2588	320	642	581	85	212	245	477	462
Average Queue (ft)	77	74	81	108	70	50	117	680	1686	1685	248	388	345	36	67	185	197	167
95th Queue (ft)	124	125	142	169	146	93	192	1407	2869	2873	420	666	628	71	144	257	313	344
Link Distance (ft)			1459	1459	1459				2637	2637		1947	1947	1947		520	520	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	775	775				660	975	975			260				420			535
Storage Blk Time (%)								0	37		59	2						
Queuing Penalty (veh)								1	107		150	2						

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	380	410	818	656	329	154	213	360	3562	3562	3562	410	255	285	3905	3905	3880	260	176	190	268	309	240
Average Queue (ft)	354	380	546	246	203	67	87	276	3286	3302	3308	405	248	284	2906	2800	2200	131	56	101	196	171	131
95th Queue (ft)	429	462	951	456	295	112	165	479	4114	4124	4127	447	276	286	4654	4699	4523	307	133	167	269	246	226
Link Distance (ft)			4930	4930	4930				3510	3510	3510				3853	3853	3853				1822	1822	1822
Upstream Blk Time (%)									54	64	69				29	5	2						
Queuing Penalty (veh)									0	0	0				0	0	0						
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)	15	70						0	61		61	3	18	81	0		17	0					
Queuing Penalty (veh)	44	209						0	184		362	20	56	258	2		28	0					

Intersection: 8: Coffee Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	L	T	T	R	L	T	L	T	R
Maximum Queue (ft)	185	265	243	203	524	470	300	233	188	169	322	319
Average Queue (ft)	84	106	113	77	284	284	32	127	78	40	186	11
95th Queue (ft)	165	207	205	154	476	462	185	223	139	120	307	109
Link Distance (ft)		2480	2480		2632	2632			1530		1977	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	320			420			240	260		110		260
Storage Blk Time (%)			0		2	16					27	
Queuing Penalty (veh)			0		2	5					111	

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	238	276	341	294	261	129	359	1383	1342	1287	275	318	208	225	124	431	695	360
Average Queue (ft)	54	106	214	178	91	52	294	987	969	878	185	226	66	75	56	161	304	331
95th Queue (ft)	133	170	298	248	203	102	445	1304	1279	1167	239	296	135	151	113	278	661	396
Link Distance (ft)			1407	1407	1407			3308	3308	3308			1262	1262		1270	1270	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)			1				4	70				0				0		30
Queuing Penalty (veh)			1				22	155				1				0		45

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	199	269	268	313	326	269	338	259	296	281	192	401	135
Average Queue (ft)	95	157	159	106	140	148	174	119	59	152	69	123	74
95th Queue (ft)	165	238	240	220	251	241	283	206	151	251	141	250	142
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								2	1		1	27	4
Queuing Penalty (veh)								1	1		4	52	9

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	L	T	R	L	T	R
Maximum Queue (ft)	251	316	356	369	514	502	230	936	300	375	727	160
Average Queue (ft)	105	164	195	223	205	198	162	345	89	199	420	83
95th Queue (ft)	189	257	296	330	354	327	279	595	255	407	681	136
Link Distance (ft)		2526	2526		1889	1889		1580			3994	3994
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	410			310			170		240	315		

Storage Blk Time (%)				2	1	0	34	17			24						
Queuing Penalty (veh)				8	2	0	183	41			24						

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	190	198	209	178	359	409	408	333	63	440	489	142	119	175	2180	2088	360
Average Queue (ft)	73	123	138	113	49	299	271	193	13	237	267	80	56	45	292	297	225
95th Queue (ft)	161	182	187	182	157	380	370	294	41	379	407	135	100	123	905	891	370
Link Distance (ft)		1376	1376	1376		1274	1274	1274			2052	2052	2052		2174	2174	
Upstream Blk Time (%)															0		
Queuing Penalty (veh)															0		
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)						9		0			0				4	2	8
Queuing Penalty (veh)						3		0			0				1	9	27

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	839	1299	134	3408	210	310	416	235	632	160
Average Queue (ft)	315	833	51	2492	150	64	251	165	278	104
95th Queue (ft)	648	1151	120	3970	266	160	393	266	521	192
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)				38						
Queuing Penalty (veh)				0						
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			7	61	1		10	14	33	3
Queuing Penalty (veh)			52	182	7		7	52	112	13

Intersection: 14: Roselle & Claribel

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	TR
Maximum Queue (ft)	360	2448	360	2651	359	846	171	360	1790
Average Queue (ft)	53	2175	359	2426	247	300	73	230	1061
95th Queue (ft)	232	2955	362	3222	409	634	128	478	1931
Link Distance (ft)		2395		2598		2312	2312		2478

Upstream Blk Time (%)		65		66				
Queuing Penalty (veh)		0		0				
Storage Bay Dist (ft)	300		300		300		300	
Storage Blk Time (%)	0	74	68	7	24	3		65
Queuing Penalty (veh)	0	29	345	24	85	3		52

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	269	255	308	95	100	325	210
Average Queue (ft)	137	140	178	47	51	128	93
95th Queue (ft)	203	217	276	93	97	244	183
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		300	400				150
Storage Blk Time (%)						7	1
Queuing Penalty (veh)						18	1

Intersection: 16: Claus Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	210	569	135	263	359	399	135	309	608	740	309	403	412
Average Queue (ft)	172	311	51	159	195	212	38	58	385	445	64	244	274
95th Queue (ft)	258	542	140	239	298	353	124	184	618	688	196	378	411
Link Distance (ft)		2149				2758			2150	2150		2396	2396
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	150		75	300	300		75	250			250		
Storage Blk Time (%)	24	45	0			38			35			11	
Queuing Penalty (veh)	85	86	2			192			10			4	

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	291	216	290	217	228

Average Queue (ft)	148	83	147	46	118
95th Queue (ft)	256	169	234	113	190
Link Distance (ft)		1991	5348	1909	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	300				300
Storage Blk Time (%)	0				
Queuing Penalty (veh)	0				

Intersection: 18: Bentley & Claribel

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	193	70	113	48	126	47
Average Queue (ft)	50	10	46	25	62	25
95th Queue (ft)	122	41	86	55	106	55
Link Distance (ft)	2720	2487	1498		1216	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			20	4	34	5
Queuing Penalty (veh)			6	3	10	5

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	93	207	197	125	227	200	141	118	137	139	78
Average Queue (ft)	43	117	124	54	134	80	68	49	70	35	42
95th Queue (ft)	90	188	190	90	205	141	116	93	116	67	69
Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)									2	2	0
Queuing Penalty (veh)									4	5	1

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	2724	260	360	2588	2434	300	370	147	1304	1226
Average Queue (ft)	101	2702	257	347	1462	1073	209	210	90	726	624
95th Queue (ft)	126	2836	270	414	2275	2307	296	301	144	1076	1010
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)		79			1						
Queuing Penalty (veh)		0			0						
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	80	35	33	56	20			1			
Queuing Penalty (veh)	616	185	146	294	47			3			

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	309	396	389	245	321	311	182	187	147	110	146	200	160
Average Queue (ft)	58	227	233	113	177	189	98	123	69	52	37	92	69
95th Queue (ft)	149	352	369	198	285	303	174	175	128	108	83	160	132
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)		6		1	4		0	0	19	4	0	12	1
Queuing Penalty (veh)		4		5	7		0	0	71	14	1	22	2

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	284	464	281	134	667	285	382	419	320	222	812	782
Average Queue (ft)	226	130	27	36	253	96	222	239	191	99	394	388
95th Queue (ft)	319	379	115	86	483	231	366	354	301	199	579	591
Link Distance (ft)		5603			2237			1498			1981	1981
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	225		225	400		300	400		
Storage Blk Time (%)	25	0			15	0	0	2	0		9	
Queuing Penalty (veh)	22	0			28	0	0	12	1		10	

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	282	315	285	172	318	304	367	271	92	366	383	212
Average Queue (ft)	186	60	38	42	161	94	175	155	34	226	192	63
95th Queue (ft)	290	182	122	101	273	202	293	264	79	324	297	131
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)	5			0	10		0			0	0	
Queuing Penalty (veh)	10			0	4		0			0	0	

Intersection: 31: Bend

Movement	NB	NB
Directions Served	T	
Maximum Queue (ft)	100	41
Average Queue (ft)	10	1
95th Queue (ft)	54	14
Link Distance (ft)	520	520
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 86: Bend

Movement	NE	NE
Directions Served	T	
Maximum Queue (ft)	87	92
Average Queue (ft)	3	3
95th Queue (ft)	30	32
Link Distance (ft)	873	873
Upstream Blk Time (%)		
Queuing Penalty (veh)		

Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 90: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	476	433
Average Queue (ft)	45	26
95th Queue (ft)	262	185
Link Distance (ft)	586	586
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 101: SR 219 (Kiernan Ave)#1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 103: Claribel Rd

Movement	WB	WB	NB
Directions Served	T	T	R
Maximum Queue (ft)	2461	2457	133
Average Queue (ft)	88	89	60
95th Queue (ft)	841	841	120

Link Distance (ft)	2480	2480	329
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 109: Claribel Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	274
Average Queue (ft)	111
95th Queue (ft)	206
Link Distance (ft)	264
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary
Network wide Queuing Penalty: 5714

SimTraffic Performance Report
2042 No Project PM Peak Hour
3/27/2014

1: Carver & SR 219 (Kiernan Ave) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.9	0.2	0.9	0	0	0	2.3	0.5	0.5	2.4	0.4	0.2	0.3
Total Del/Veh (s)	53.9	26.2	10.9	54.9	26.5	14	47	40.8	30.6	50.8	37.4	17.1	28
Vehicles Exited	47	1528	273	57	1493	59	148	130	167	109	77	28	4116
Hourly Exit Rate	47	1528	273	57	1493	59	148	130	167	109	77	28	4116
Input Volume	60	1500	270	60	1640	60	160	110	160	120	90	30	4259
% of Volume	78	102	101	95	91	98	93	118	105	91	86	94	97
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.2	0.2	0.3	0.3	0.3	0.2	0.1
Total Del/Veh (s)	130	248	196	205	35.6	7.8	339	51.4	40.7	53.5	76.7	64.2	165
Vehicles Exited	79	1167	417	335	1051	56	551	192	288	126	198	36	4496
Hourly Exit Rate	79	1167	417	335	1051	56	551	192	288	126	198	36	4496
Input Volume	80	1270	430	380	1090	50	630	220	320	130	210	40	4850
% of Volume	98	92	97	88	96	112	87	87	90	97	94	91	93
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.5	0.5	0.7	0	0	0	0	0	0	0.4	0.2	0.2	0.2
Total Del/Veh (s)	206	132	141	136	94	52.6	69.1	46.2	42.3	608	52.2	46.3	133
Vehicles Exited	201	472	44	21	459	103	53	612	20	223	646	268	3122
Hourly Exit Rate	201	472	44	21	459	103	53	612	20	223	646	268	3122
Input Volume	210	470	40	20	500	120	50	640	20	300	650	300	3321
% of Volume	96	100	111	104	92	86	106	96	99	74	99	89	94
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	24.2	5.7	9.7	0.9	14.3	10.9
Vehicles Exited	143	18	677	341	713	1892
Hourly Exit Rate	143	18	677	341	713	1892
Input Volume	140	20	690	360	710	1921
% of Volume	102	89	98	95	100	98
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.1	0	0.8	0.6	0	0.3
Total Del/Veh (s)	29.8	21	76.7	113	15.4	59.6
Vehicles Exited	688	26	136	585	340	1775
Hourly Exit Rate	688	26	136	585	340	1775
Input Volume	774	20	140	640	360	1934
% of Volume	89	128	97	91	94	92
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	2.1	0.3	0.4	0	0	0	0.2
Total Del/Veh (s)	80.3	47.3	18.3	64.1	139	138	82.2	31.9	21	69.8	35.3	18.4	58.3
Vehicles Exited	266	959	544	237	871	74	261	709	545	77	524	304	5371
Hourly Exit Rate	266	959	544	237	871	74	261	709	545	77	524	304	5371
Input Volume	270	1040	590	250	911	70	270	750	510	70	520	290	5542
% of Volume	99	92	92	95	96	105	97	95	107	110	101	105	97
Denied Entry Before	0	0	0	0	0	0	1	0	0	0	0	0	1
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	594	557	572	1.3	0.3	1.2	0.4	0.2	0.2	153	143	155	217
Total Del/Veh (s)	781	850	803	225	65.5	23.5	542	198	178	160	215	242	350
Vehicles Exited	169	1268	197	300	1243	472	345	1075	193	637	1519	187	7605
Hourly Exit Rate	169	1268	197	300	1243	472	345	1075	193	637	1519	187	7605
Input Volume	330	2290	360	300	1240	460	450	1100	210	680	1700	220	9340
% of Volume	51	55	55	100	100	103	77	98	92	94	89	85	81
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	2	0	2
Denied Entry After	144	825	156	0	0	0	0	0	0	68	167	29	1389

8: Coffee Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	2.7	0.4	0.4	2.7	0.8	2.6	0.4
Total Del/Veh (s)	58.2	33.6	9.8	52.5	39.2	10.8	52.7	53.8	2.9	63	34.3	3.4	32.9
Vehicles Exited	225	800	374	158	894	25	84	432	391	47	219	233	3882
Hourly Exit Rate	225	800	374	158	894	25	84	432	391	47	219	233	3882
Input Volume	250	840	370	180	891	30	100	400	390	50	220	220	3941
% of Volume	90	95	101	88	100	84	84	108	100	94	100	106	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	44.5	47.6	45	0.9	0.1	0.1	150	151	155	2.8	0.2	2.8	48.8
Total Del/Veh (s)	264	256	206	420	80.9	50.7	249	318	316	145	37.8	20.4	205
Vehicles Exited	567	1804	442	185	1305	71	276	510	284	255	208	367	6274
Hourly Exit Rate	567	1804	442	185	1305	71	276	510	284	255	208	367	6274
Input Volume	610	1970	470	180	1340	80	310	530	340	250	240	380	6700
% of Volume	93	92	94	103	97	89	89	96	84	102	87	97	94
Denied Entry Before	0	0	0	0	0	0	1	0	0	0	0	1	2
Denied Entry After	31	126	19	0	0	0	22	44	20	0	0	0	262

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.2	0.2	0.2	0.3	0.2	0.2	1.4	0.3	0.2	1.9	0.4	2.1	0.4
Total Del/Veh (s)	43.6	35.9	35.9	59.8	24.2	19.1	80.3	37.3	30.2	59.5	38.8	11.5	40.6

Vehicles Exited	114	710	179	462	425	50	198	190	295	66	184	82	2955
Hourly Exit Rate	114	710	179	462	425	50	198	190	295	66	184	82	2955
Input Volume	110	700	170	460	430	50	190	210	270	60	180	70	2900
% of Volume	104	101	105	100	99	100	104	91	109	110	102	117	102
Denied Entry Before	1	0	0	0	0	0	0	0	0	0	0	0	1
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0	0	2.7	0.3	2.7	24.5	27.9	27.9	0.3	0.2	0.1	7.3
Total Del/Veh (s)	122	65.6	55.7	145	56.8	6.3	155	147	112	151	105	10.8	94.8
Vehicles Exited	300	554	100	270	608	106	73	516	308	118	566	242	3761
Hourly Exit Rate	300	554	100	270	608	106	73	516	308	118	566	242	3761
Input Volume	300	588	100	260	620	100	80	540	310	110	560	230	3798
% of Volume	100	94	100	104	98	106	91	96	99	107	101	105	99
Denied Entry Before	0	0	0	0	0	0	0	0	1	0	0	0	1
Denied Entry After	1	0	0	0	0	0	0	14	8	0	0	0	23

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	10	9.3	11.5	2.8	0.1	2.7	0.4	0.2	0.2	2.2	0.3	1.9	4.7
Total Del/Veh (s)	63.1	92.9	61.2	75.4	36.7	11.7	86.2	35.4	33.8	119	178	80.7	79
Vehicles Exited	314	1302	946	50	800	35	610	790	96	64	679	225	5911
Hourly Exit Rate	314	1302	946	50	800	35	610	790	96	64	679	225	5911
Input Volume	310	1310	960	60	780	40	610	790	100	70	660	230	5919
% of Volume	101	99	99	83	103	88	100	100	96	91	103	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	1	1	0	0	0	0	0	0	0	0	0	2

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.1	4.3	2.5	1.9	51.1	40.3	43.6	2.5	1.3	2.3	8.6
Total Del/Veh (s)	158	72.7	57.8	395	373	327	217	233	238	65	63.3	24.8	175
Vehicles Exited	251	580	47	25	416	124	88	312	49	267	213	190	2562
Hourly Exit Rate	251	580	47	25	416	124	88	312	49	267	213	190	2562
Input Volume	260	580	40	50	490	150	70	310	50	300	200	180	2680

% of Volume	97	100	118	50	85	83	125	101	98	89	107	106	96
Denied Entry Before	0	0	0	0	0	0	1	0	0	0	0	1	2
Denied Entry After	0	0	0	2	7	2	0	5	1	1	0	0	18

14: Roselle & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	500	535	503	205	202	244	161	155	169	5	3.7	3.8	234
Total Del/Veh (s)	439	460	445	405	295	275	516	324	110	543	467	447	372
Vehicles Exited	60	332	166	230	434	77	230	428	319	57	302	69	2704
Hourly Exit Rate	60	332	166	230	434	77	230	428	319	57	302	69	2704
Input Volume	90	450	240	290	520	90	280	510	390	60	360	80	3360
% of Volume	67	74	69	79	83	86	82	84	82	95	84	87	80
Denied Entry Before	0	0	0	1	0	0	0	0	0	0	0	0	1
Denied Entry After	26	129	71	55	59	9	32	63	63	1	9	0	517

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	1	3.5	0.5
Total Del/Veh (s)	18.2	12.2	40.4	5.4	35.9	10.4	18.2
Vehicles Exited	659	260	308	548	210	265	2250
Hourly Exit Rate	659	260	308	548	210	265	2250
Input Volume	660	220	280	530	220	310	2220
% of Volume	100	118	110	103	95	85	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.5	1	3.4	2.2	1.3	1.9	2.6	0.2	0.4	1.3	0.2	0.2	1
Total Del/Veh (s)	73.9	61.5	30.1	67.1	53.2	17.9	55.5	43.3	52.1	68.4	31.3	25.3	49.4
Vehicles Exited	254	264	50	576	267	47	30	570	553	45	653	234	3543
Hourly Exit Rate	254	264	50	576	267	47	30	570	553	45	653	234	3543
Input Volume	240	270	60	560	290	40	40	620	560	50	650	220	3599
% of Volume	106	98	83	103	92	118	75	92	99	90	100	106	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	1	0	1	0	0	0	0	0	0	0	0	0	2

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	3.4	1.9	0.4	0.5	1.4	3.4	2.3
Total Del/Veh (s)	55.9	28	170	158	133	149	111
Vehicles Exited	582	281	390	137	134	511	2035
Hourly Exit Rate	582	281	390	137	134	511	2035
Input Volume	630	290	410	150	140	550	2170
% of Volume	92	97	95	91	96	93	94
Denied Entry Before	1	0	0	0	1	0	2
Denied Entry After	0	0	0	0	0	1	1

18: Bentley & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.4	0.4	0.5	0.4	0.5	0.1	0.4	4	1	0.7	3.6	1
Total Del/Veh (s)	7.7	5.9	4.3	6.4	5.3	1.6	24.4	24.1	10	50.8	54	43.7	17.5
Vehicles Exited	92	396	39	36	388	59	34	43	28	61	85	250	1511
Hourly Exit Rate	92	396	39	36	388	59	34	43	28	61	85	250	1511
Input Volume	90	410	30	30	360	60	30	40	30	80	90	220	1469
% of Volume	103	97	131	121	108	98	114	108	94	76	95	114	103
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	1.5	1	0.9	3.6	0.6	0.5	2.3	0.6	2.1	0.8
Total Del/Veh (s)	35.1	13	10.3	43.9	21.5	16.9	23.3	20.3	12.1	27.1	23	6.5	18.3
Vehicles Exited	88	776	54	33	779	101	119	70	95	116	58	137	2426
Hourly Exit Rate	88	776	54	33	779	101	119	70	95	116	58	137	2426
Input Volume	100	800	50	40	760	80	110	60	80	100	60	140	2380
% of Volume	88	97	109	83	103	126	108	117	119	116	97	98	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	1	0	0	1

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	267	271	278	248	236	224	2.2	1.4	2.1	0.2	0.1	0.2	146
Total Del/Veh (s)	373	274	264	415	367	229	118	121	42.7	529	530	501	315
Vehicles Exited	81	685	83	128	614	411	113	489	242	321	364	80	3611
Hourly Exit Rate	81	685	83	128	614	411	113	489	242	321	364	80	3611
Input Volume	110	800	100	170	740	470	120	480	240	390	410	80	4110
% of Volume	74	86	83	75	83	87	94	102	101	82	89	100	88
Denied Entry Before	0	0	0	0	0	0	0	0	1	0	0	0	1
Denied Entry After	12	119	24	31	139	72	0	0	0	0	0	0	397

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.4	0.3	0.3	0.5	0.2	0.3	1.8	0.7	2	0.4	0.4	0.3	0.5
Total Del/Veh (s)	63.5	28.3	24	64.2	28.4	26.7	61.9	30.9	12.9	51.7	31.1	15.4	32.4
Vehicles Exited	159	923	195	130	989	63	193	174	196	63	154	133	3372
Hourly Exit Rate	159	923	195	130	989	63	193	174	196	63	154	133	3372
Input Volume	150	920	190	130	980	60	180	190	180	60	140	130	3310
% of Volume	106	100	103	100	101	105	107	92	109	105	110	103	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.7	0.6	0.7	3.7	0.4	3.9	2.9	1.1	2.9	2.8	0.3	0.4	1
Total Del/Veh (s)	64.4	46.5	21.4	50.3	38.6	9.4	52.3	43.4	37.9	60.1	29.4	22.2	38.5
Vehicles Exited	158	403	142	23	70	144	47	814	25	172	629	220	2847
Hourly Exit Rate	158	403	142	23	70	144	47	814	25	172	629	220	2847
Input Volume	150	400	140	20	70	140	40	830	30	160	600	200	2779
% of Volume	106	101	101	114	100	103	118	98	84	108	105	110	102
Denied Entry Before	0	1	0	0	1	1	0	0	0	0	0	0	3
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.6	1.3	3.5	1.9	0.2	0.3	2.9	0.3	0.2	3.4	0.3	2.9	1.4
Total Del/Veh (s)	32.5	25.1	7	35.1	42.8	19.8	36.5	17.7	8.9	41.2	25.6	8.4	21.9

Vehicles Exited	224	113	162	39	71	25	129	663	67	20	518	219	2250
Hourly Exit Rate	224	113	162	39	71	25	129	663	67	20	518	219	2250
Input Volume	220	120	180	40	80	30	130	610	50	30	520	240	2250
% of Volume	102	94	90	98	88	84	99	109	134	67	100	91	100
Denied Entry Before	1	0	1	0	0	0	1	0	0	0	0	0	3
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	1	1

24: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	279	279
Hourly Exit Rate	279	279
Input Volume	290	290
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

25: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	1636	1636
Hourly Exit Rate	1636	1636
Input Volume	1620	1620
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

26: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	836	836
Hourly Exit Rate	836	836
Input Volume	890	890

% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

27: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.5	5.5
Vehicles Exited	675	675
Hourly Exit Rate	675	675
Input Volume	680	680
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

28: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	893	893
Hourly Exit Rate	893	893
Input Volume	960	960
% of Volume	93	93
Denied Entry Before	0	0
Denied Entry After	0	0

29: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	915	915
Hourly Exit Rate	915	915
Input Volume	970	970
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

30: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	945	945
Hourly Exit Rate	945	945
Input Volume	1019	1019
% of Volume	93	93
Denied Entry Before	0	0
Denied Entry After	0	0

31: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.9	0.4
Total Del/Veh (s)	8.1	3.9	6.1
Vehicles Exited	1054	912	1966
Hourly Exit Rate	1054	912	1966
Input Volume	1090	880	1970
% of Volume	97	104	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

32: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	733	733
Hourly Exit Rate	733	733
Input Volume	780	780
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

33: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.6	8.6
Vehicles Exited	2013	2013
Hourly Exit Rate	2013	2013
Input Volume	2360	2360
% of Volume	85	85
Denied Entry Before	0	0
Denied Entry After	0	0

34: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3
Vehicles Exited	1307	1307
Hourly Exit Rate	1307	1307
Input Volume	1270	1270
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

35: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	1244	1244
Hourly Exit Rate	1244	1244
Input Volume	1430	1430
% of Volume	87	87
Denied Entry Before	0	0
Denied Entry After	0	0

36: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3

Vehicles Exited	934	934
Hourly Exit Rate	934	934
Input Volume	919	919
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

37: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.4	6.4
Vehicles Exited	1118	1118
Hourly Exit Rate	1118	1118
Input Volume	1120	1120
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

38: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	2096	2096
Hourly Exit Rate	2096	2096
Input Volume	3180	3180
% of Volume	66	66
Denied Entry Before	0	0
Denied Entry After	0	0

39: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.1	9.1
Vehicles Exited	782	782
Hourly Exit Rate	782	782
Input Volume	850	850

% of Volume	92	92
Denied Entry Before	0	0
Denied Entry After	0	0

40: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.4	9.4
Vehicles Exited	1067	1067
Hourly Exit Rate	1067	1067
Input Volume	1090	1090
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6	6
Vehicles Exited	1176	1176
Hourly Exit Rate	1176	1176
Input Volume	1160	1160
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.3	9.3
Vehicles Exited	916	916
Hourly Exit Rate	916	916
Input Volume	970	970
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	11.4	11.4
Vehicles Exited	977	977
Hourly Exit Rate	977	977
Input Volume	1059	1059
% of Volume	92	92
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.6	7.6
Vehicles Exited	1718	1718
Hourly Exit Rate	1718	1718
Input Volume	1890	1890
% of Volume	91	91
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	353	353
Hourly Exit Rate	353	353
Input Volume	370	370
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.8	5.8
Vehicles Exited	402	402
Hourly Exit Rate	402	402
Input Volume	400	400
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	486	486
Hourly Exit Rate	486	486
Input Volume	460	460
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.4	7.4
Vehicles Exited	601	601
Hourly Exit Rate	601	601
Input Volume	590	590
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5

Vehicles Exited	258	258
Hourly Exit Rate	258	258
Input Volume	240	240
% of Volume	107	107
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	142	142
Hourly Exit Rate	142	142
Input Volume	150	150
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.9	9.9
Vehicles Exited	1779	1779
Hourly Exit Rate	1779	1779
Input Volume	1910	1910
% of Volume	93	93
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	791	791
Hourly Exit Rate	791	791
Input Volume	760	760

% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.6	5.6
Vehicles Exited	1671	1671
Hourly Exit Rate	1671	1671
Input Volume	1680	1680
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

54: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	859	859
Hourly Exit Rate	859	859
Input Volume	880	880
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	748	748
Hourly Exit Rate	748	748
Input Volume	770	770
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.3	8.3
Vehicles Exited	1018	1018
Hourly Exit Rate	1018	1018
Input Volume	1130	1130
% of Volume	90	90
Denied Entry Before	0	0
Denied Entry After	0	0

63: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	165	165
Hourly Exit Rate	165	165
Input Volume	160	160
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.1	8.1
Vehicles Exited	904	904
Hourly Exit Rate	904	904
Input Volume	930	930
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.7	8.7
Vehicles Exited	930	930
Hourly Exit Rate	930	930
Input Volume	940	940
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	1465	1465
Hourly Exit Rate	1465	1465
Input Volume	1480	1480
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	568	568
Hourly Exit Rate	568	568
Input Volume	500	500
% of Volume	114	114
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2

Vehicles Exited	329	329
Hourly Exit Rate	329	329
Input Volume	350	350
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	235	235
Hourly Exit Rate	235	235
Input Volume	230	230
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	412	412
Hourly Exit Rate	412	412
Input Volume	420	420
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

72: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	292	292
Hourly Exit Rate	292	292
Input Volume	310	310

% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.8	0	0.4
Total Del/Veh (s)	4.3	8.9	6.7
Vehicles Exited	927	1044	1971
Hourly Exit Rate	927	1044	1971
Input Volume	950	1010	1960
% of Volume	98	103	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	562	562
Hourly Exit Rate	562	562
Input Volume	690	690
% of Volume	81	81
Denied Entry Before	0	0
Denied Entry After	0	0

75: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	699	699
Hourly Exit Rate	699	699
Input Volume	890	890
% of Volume	79	79
Denied Entry Before	0	0
Denied Entry After	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.3	7.3
Vehicles Exited	1694	1694
Hourly Exit Rate	1694	1694
Input Volume	1829	1829
% of Volume	93	93
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	425	425
Hourly Exit Rate	425	425
Input Volume	451	451
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	200	200
Hourly Exit Rate	200	200
Input Volume	200	200
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	993	993
Hourly Exit Rate	993	993
Input Volume	980	980
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.8	0	0.4
Total Del/Veh (s)	1.3	2.4	1.8
Vehicles Exited	916	757	1673
Hourly Exit Rate	916	757	1673
Input Volume	880	750	1630
% of Volume	104	101	103
Denied Entry Before	1	0	1
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.8	0.4
Total Del/Veh (s)	6.8	1.2	4.1
Vehicles Exited	915	854	1769
Hourly Exit Rate	915	854	1769
Input Volume	970	810	1780
% of Volume	94	105	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.4	6.4

Vehicles Exited	1041	1041
Hourly Exit Rate	1041	1041
Input Volume	1010	1010
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	704	704
Hourly Exit Rate	704	704
Input Volume	740	740
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	917	917
Hourly Exit Rate	917	917
Input Volume	860	860
% of Volume	107	107
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	1.2	0	0.6
Total Del/Veh (s)	3.6	9.2	6.2
Vehicles Exited	1022	847	1869
Hourly Exit Rate	1022	847	1869
Input Volume	1050	850	1901

% of Volume	97	100	98
Denied Entry Before	0	0	0
Denied Entry After	2	0	2

91: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	672	672
Hourly Exit Rate	672	672
Input Volume	610	610
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

92: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	492	492
Hourly Exit Rate	492	492
Input Volume	520	520
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	695	695
Hourly Exit Rate	695	695
Input Volume	720	720
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	158	158
Hourly Exit Rate	158	158
Input Volume	149	149
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	194	194
Hourly Exit Rate	194	194
Input Volume	190	190
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	420	420
Hourly Exit Rate	420	420
Input Volume	430	430
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	1314	1314
Hourly Exit Rate	1314	1314
Input Volume	1290	1290
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.5	5.5
Vehicles Exited	739	739
Hourly Exit Rate	739	739
Input Volume	880	880
% of Volume	84	84
Denied Entry Before	0	0
Denied Entry After	0	0

100: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.6	5.6
Vehicles Exited	705	705
Hourly Exit Rate	705	705
Input Volume	900	900
% of Volume	78	78
Denied Entry Before	0	0
Denied Entry After	0	0

101: SR 219 (Kiernan Ave)#1 Performance by movement

Movement	EBT	WBT	NBR	SBR	All
Denied Del/Veh (s)	0	0	0.2	0.1	0
Total Del/Veh (s)	18.6	7.2	16.8	6.9	13.4

Vehicles Exited	1588	1430	168	42	3228
Hourly Exit Rate	1588	1430	168	42	3228
Input Volume	1720	1476	180	50	3426
% of Volume	92	97	93	84	94
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	853	853
Hourly Exit Rate	853	853
Input Volume	850	850
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

103: Claribel Rd Performance by movement

Movement	EBT	EBR	WBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.1	0
Total Del/Veh (s)	11.3	5.5	9.8	7.2	10.3
Vehicles Exited	1406	165	1229	14	2814
Hourly Exit Rate	1406	165	1229	14	2814
Input Volume	1465	160	1222	20	2867
% of Volume	96	103	101	69	98
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	1316	1316
Hourly Exit Rate	1316	1316
Input Volume	1360	1360

% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	1143	1143
Hourly Exit Rate	1143	1143
Input Volume	1220	1220
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	1951	1951
Hourly Exit Rate	1951	1951
Input Volume	2030	2030
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	711	711
Hourly Exit Rate	711	711
Input Volume	690	690
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	834	834
Hourly Exit Rate	834	834
Input Volume	810	810
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

109: Claribel Rd Performance by movement

Movement	EBT	EBR	WBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.2	0
Total Del/Veh (s)	7.5	8.1	7.6	7.7	7.6
Vehicles Exited	978	290	929	178	2375
Hourly Exit Rate	978	290	929	178	2375
Input Volume	987	310	936	170	2403
% of Volume	99	93	99	105	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.4	10.4
Vehicles Exited	2351	2351
Hourly Exit Rate	2351	2351
Input Volume	2560	2560
% of Volume	92	92
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	1135	1135
Hourly Exit Rate	1135	1135
Input Volume	1140	1140
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	703	703
Hourly Exit Rate	703	703
Input Volume	740	740
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	961	961
Hourly Exit Rate	961	961
Input Volume	990	990
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3

Vehicles Exited	878	878
Hourly Exit Rate	878	878
Input Volume	900	900
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	752	752
Hourly Exit Rate	752	752
Input Volume	750	750
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.5	6.5
Vehicles Exited	1071	1071
Hourly Exit Rate	1071	1071
Input Volume	1030	1030
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	580	580
Hourly Exit Rate	580	580
Input Volume	680	680

% of Volume	85	85
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9	9
Vehicles Exited	813	813
Hourly Exit Rate	813	813
Input Volume	940	940
% of Volume	86	86
Denied Entry Before	0	0
Denied Entry After	0	0

122: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	521	521
Hourly Exit Rate	521	521
Input Volume	550	550
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	335	335
Hourly Exit Rate	335	335
Input Volume	310	310
% of Volume	108	108
Denied Entry Before	0	0
Denied Entry After	0	0

Total Network Performance

Denied Del/Veh (s)	55.3
Total Del/Veh (s)	162
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	38
Denied Entry Before	20
Denied Entry After	2615

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Queuing an PM Peak Hour
2042 No Pro ########

Intersection: 1: Carver & SR 219 (Kiernan Ave)

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	112	321	310	363	105	142	318	347	365	70	289	344	241	152
Average Queue (ft)	49	189	202	221	61	53	167	192	211	21	111	155	87	64
95th Queue (ft)	102	292	282	305	104	111	276	289	319	60	220	278	184	132
Link Distance (ft)		3295	3295	3295			2546	2546	2546			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	530				410	580				530	330		300	
Storage Blk Time (%)												1		
Queuing Penalty (veh)												1		

Intersection: 2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	L	T	T	T	R	L	T	R	L	TR
Maximum Queue (ft)	775	1807	1844	2014	415	552	565	221	230	234	99	3022	2989	220	213	373

Average Queue (ft)	393	1139	1180	1271	396	308	324	132	154	174	16	1913	1134	118	102	209
95th Queue (ft)	980	1850	1921	2098	507	497	521	210	218	246	53	2927	2752	213	186	326
Link Distance (ft)		2546	2546	2546				3623	3623	3623		3678	3678			3952
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	715				355	660	660				415			400	300	
Storage Blk Time (%)		51		61	2											2
Queuing Penalty (veh)		41		261	8											3

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	310	1703	150	506	220	244	471	360	350	2636	2624
Average Queue (ft)	282	921	34	486	134	72	241	234	349	1469	1205
95th Queue (ft)	349	1515	96	539	286	190	377	344	350	2387	2387
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				43			0				
Queuing Penalty (veh)				275			1				
Storage Bay Dist (ft)	250		90		160	185			290		
Storage Blk Time (%)	31	41		68		0	18		92	2	
Queuing Penalty (veh)	161	85		96		1	9		298	5	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	203	383	271	313
Average Queue (ft)	89	118	142	108
95th Queue (ft)	156	233	263	231
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	505	590	1779	295
Average Queue (ft)	371	291	738	116
95th Queue (ft)	565	689	1783	218
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)	2			
Queuing Penalty (veh)	12			
Storage Bay Dist (ft)		530		
Storage Blk Time (%)		0	31	
Queuing Penalty (veh)		0	43	

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	283	288	349	416	383	396	165	1034	1127	1099	320	563	512	381	149	277	279	302
Average Queue (ft)	163	157	243	282	216	182	96	148	644	649	254	266	223	191	77	147	161	129
95th Queue (ft)	257	254	330	363	310	299	151	435	1035	1028	363	468	394	348	140	233	247	235
Link Distance (ft)			1459	1459	1459				2637	2637		1947	1947	1947		520	520	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	775	775				660	975	975			260				420			535
Storage Blk Time (%)									5		20	4						
Queuing Penalty (veh)									13		74	10						

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	133	410	4982	4982	4982	410	330	360	753	786	841	410	255	285	3220	3193	2997	200	434	620	1862	1862	1862
Average Queue (ft)	65	311	4777	4773	4771	397	264	287	400	398	325	218	252	284	1922	1804	1246	184	296	609	1663	1617	1582
95th Queue (ft)	135	557	5563	5567	5578	499	375	416	660	619	588	395	259	285	3511	3526	2461	244	405	697	2267	2257	2292
Link Distance (ft)			4930	4930	4930				2276	2276	2276				3853	3853	3853				1810	1810	1810
Upstream Blk Time (%)			78	81	78																47	21	18
Queuing Penalty (veh)			0	0	0																0	0	0
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)			71		75	0	15	36	10		8		22	76	26		57	3			57		
Queuing Penalty (veh)			235		269	0	62	149	30		38		81	277	118		120	12			385		

Intersection: 8: Coffee Rd & Claribel Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	L	T
Maximum Queue (ft)	379	456	318	302	227	380	408	300	319	528	169	268
Average Queue (ft)	188	203	200	21	124	250	241	11	97	306	57	130
95th Queue (ft)	317	355	292	149	199	374	351	103	238	501	133	229
Link Distance (ft)		2480	2480			2632	2632			1530		1977
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	320			250	420			240	260		110	
Storage Blk Time (%)	3	0	2	0			11			17	2	15
Queuing Penalty (veh)	11	1	8	0			3			17	8	39

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	329	360	2665	2665	2647	360	360	1051	1021	653	218	360	1315	1294	359	594	484	315
Average Queue (ft)	265	329	2193	2157	2052	254	348	821	786	402	118	285	1283	1272	306	324	119	142
95th Queue (ft)	370	441	3097	3111	3130	466	392	1157	1111	613	207	454	1303	1319	418	615	339	244
Link Distance (ft)			2613	2613	2613			3308	3308	3308			1263	1263		1269	1269	
Upstream Blk Time (%)			34	32	29								70	65				
Queuing Penalty (veh)			0	0	0								0	0				
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)	2	18	61		66	1	69	18				0	80		38	0		0
Queuing Penalty (veh)	10	117	373		308	6	309	32				0	247		46	0		0

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	145	369	421	352	336	180	213	259	563	282	209	358	135
Average Queue (ft)	82	242	262	179	186	87	114	177	184	163	68	145	71
95th Queue (ft)	128	334	371	292	293	158	181	299	438	247	137	260	148
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													

Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								22	1		0	33	0
Queuing Penalty (veh)								46	3		1	43	0

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	L	T	R	L	T	R
Maximum Queue (ft)	470	637	485	370	834	800	230	1637	300	375	1078	180
Average Queue (ft)	357	275	256	322	430	365	119	1217	241	261	678	77
95th Queue (ft)	560	525	396	447	789	696	241	2106	388	449	1007	134
Link Distance (ft)		2526	2526		1889	1889		1584			3994	3994
Upstream Blk Time (%)								39				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	410			310			170		240	315		
Storage Blk Time (%)	18	1		42	0	1		51	0		51	
Queuing Penalty (veh)	52	2		130	0	1		200	3		57	

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	R	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	230	1393	1410	1428	360	145	378	344	238	60	558	560	380	388	360	914	893	360
Average Queue (ft)	122	538	983	1042	295	52	215	174	103	23	322	349	252	269	184	683	698	349
95th Queue (ft)	217	1444	1638	1761	522	107	300	247	210	51	490	508	350	374	436	881	895	439
Link Distance (ft)		1376	1376	1376			1274	1274	1274			2052	2052	2052		2174	2174	
Upstream Blk Time (%)		1	4	16														
Queuing Penalty (veh)		0	0	0														
Storage Bay Dist (ft)	300				300	300				300	500				300			300
Storage Blk Time (%)		0		28	0		1				0	1				77	74	0
Queuing Penalty (veh)		0		271	0		0				0	4				54	171	1

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	867	973	134	3386	210	310	1279	235	1197	160
Average Queue (ft)	434	551	46	2139	135	215	1034	211	380	117
95th Queue (ft)	838	879	116	3468	270	412	1478	261	708	199

Link Distance (ft)	3220	3220		3356			1227		1669
Upstream Blk Time (%)				5			43		
Queuing Penalty (veh)				0			0		
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			2	71	1	0	75	29	37	1
Queuing Penalty (veh)			10	143	3	0	53	112	179	5

Intersection: 14: Roselle & Claribel

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	TR
Maximum Queue (ft)	360	2448	360	2651	360	2364	2364	360	2530
Average Queue (ft)	158	2438	356	2317	354	2190	2101	251	1921
95th Queue (ft)	410	2461	369	3242	375	2722	2915	484	2698
Link Distance (ft)		2395		2598		2312	2312		2478
Upstream Blk Time (%)		98		62		71	46		17
Queuing Penalty (veh)		0		0		0	0		0
Storage Bay Dist (ft)	300		300		300			300	
Storage Blk Time (%)	0	68	66	12	71	17		5	79
Queuing Penalty (veh)	0	61	402	36	355	51		20	48

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	268	268	376	113	150	470	210
Average Queue (ft)	150	148	195	51	57	142	80
95th Queue (ft)	220	217	340	104	107	301	164
Link Distance (ft)	826			890	890	1576	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		300	400				150
Storage Blk Time (%)						8	0
Queuing Penalty (veh)						23	0

Intersection: 16: Claus Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	R	L	T	TR	L	T	TR

Maximum Queue (ft)	210	622	135	329	359	542	135	309	551	679	109	352	446
Average Queue (ft)	200	363	54	257	281	227	52	36	303	404	51	209	236
95th Queue (ft)	232	551	142	349	359	410	145	131	472	595	91	323	361
Link Distance (ft)		2149				2758			2150	2150		2396	2396
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	150		75	300	300		75	250			250		
Storage Blk Time (%)	39	53	0	2	5	44			15			3	
Queuing Penalty (veh)	128	158	1	5	17	264			6			2	

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	360	1289	1528	1692	360
Average Queue (ft)	318	430	928	846	334
95th Queue (ft)	426	1019	1375	1706	438
Link Distance (ft)		1991	5306	1909	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	300				300
Storage Blk Time (%)	26	0			70
Queuing Penalty (veh)	74	0			97

Intersection: 18: Bentley & Claribel

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	172	65	116	50	437	67
Average Queue (ft)	57	15	54	26	222	51
95th Queue (ft)	135	48	106	58	393	60
Link Distance (ft)	2720	2487	1498		1216	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			32	4	61	39
Queuing Penalty (veh)			10	3	134	67

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	126	267	278	72	595	360	144	157	156	107	129
Average Queue (ft)	59	108	124	28	191	142	66	70	64	32	43
95th Queue (ft)	115	179	199	61	351	275	121	135	125	73	71
Link Distance (ft)		1565	1565		2616			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)		0			3	0			3	3	0
Queuing Penalty (veh)		0			13	0			5	6	1

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	2806	260	360	2625	2625	784	763	360	3322	3301
Average Queue (ft)	101	2781	259	252	2531	2512	459	510	292	2375	2329
95th Queue (ft)	123	2906	262	446	2853	2878	661	736	487	3615	3613
Link Distance (ft)		2754			2573	2573		1934		5862	5862
Upstream Blk Time (%)		68			74	67					
Queuing Penalty (veh)		0			0	0					
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	81	42	35	2	58			49	1		
Queuing Penalty (veh)	729	256	175	11	98			293	3		

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	309	471	433	260	430	415	183	194	232	110	121	268	156
Average Queue (ft)	140	234	248	105	237	259	78	97	119	81	52	84	63
95th Queue (ft)	277	366	366	199	363	376	151	164	209	133	94	132	127
Link Distance (ft)		1999	1999		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)	1	6		3	10		0	0	29	13	2	7	2

Queuing Penalty (veh)	3	9		17	13		0	1	107	48	7	13	4

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	284	753	285	54	161	120	106	487	360	230	365	324
Average Queue (ft)	158	304	98	21	50	51	45	294	244	146	185	207
95th Queue (ft)	295	581	252	50	120	95	82	444	379	228	310	329
Link Distance (ft)		5536			2237			1498			1981	1981
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	225		225	400		300	400		
Storage Blk Time (%)	3	14	0					6	1			
Queuing Penalty (veh)	15	40	0					30	4			

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	232	139	156	125	120	139	255	222	89	237	236	145
Average Queue (ft)	131	50	43	36	66	87	136	119	25	141	117	59
95th Queue (ft)	210	115	90	85	116	143	225	193	61	214	212	103
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)	1											
Queuing Penalty (veh)	2											

Intersection: 31: Bend

Movement	NB
Directions Served	T
Maximum Queue (ft)	300
Average Queue (ft)	30
95th Queue (ft)	173
Link Distance (ft)	520
Upstream Blk Time (%)	

Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 90: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	550	280
Average Queue (ft)	32	10
95th Queue (ft)	229	96
Link Distance (ft)	586	586
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 101: SR 219 (Kiernan Ave)#1

Movement	EB	EB	NB	SB
Directions Served	T	T	R	R
Maximum Queue (ft)	2985	2991	171	95
Average Queue (ft)	107	107	80	18
95th Queue (ft)	1021	1023	151	53
Link Distance (ft)	3623	3623	314	264
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 103: Claribel Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	59
Average Queue (ft)	9

95th Queue (ft)	34
Link Distance (ft)	335
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 109: Claribel Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	118
Average Queue (ft)	50
95th Queue (ft)	93
Link Distance (ft)	264
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary
Network wide Queuing Penalty: 10121

SimTraffic Performance Report
2042 Alternative 1A AM Peak Hour
9/3/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.1	0.2	1	0	0	0	2.3	0.6	0.6	2.4	0.3	0.3	0.3
Total Del/Veh (s)	53.9	40.6	13.9	76.2	40.8	17.1	56.6	28.3	14.8	46.3	48.8	34.9	42.4
Vehicles Exited	69	1184	137	245	1696	70	218	78	42	29	139	60	3967
Hourly Exit Rate	69	1184	137	245	1696	70	218	78	42	29	139	60	3967
Input Volume	70	1190	140	240	1700	70	220	80	40	30	140	60	3981
% of Volume	98	99	98	102	100	100	99	97	106	97	99	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	59.2	35.6	31.1	42.2	24.4	6.4	32.8	23.2	2.6	39	30.7	19.3	29.6
Vehicles Exited	48	791	425	665	1771	48	167	88	174	35	113	66	4391
Hourly Exit Rate	48	791	425	665	1771	48	167	88	174	35	113	66	4391
Input Volume	50	790	420	660	1781	50	170	90	170	40	110	60	4390
% of Volume	96	100	101	101	99	96	98	98	102	88	103	110	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.4	0.3	0	0.3	0	0	0	0	0.3	0.2	0.2	0.2
Total Del/Veh (s)	65.1	27.1	16.5	108	80.2	47	56.7	37.8	31.1	62	46.4	40.7	51.5
Vehicles Exited	200	184	68	18	502	136	36	454	20	80	545	228	2471
Hourly Exit Rate	200	184	68	18	502	136	36	454	20	80	545	228	2471
Input Volume	200	180	70	20	550	150	40	450	20	80	540	220	2520
% of Volume	100	102	97	89	91	91	91	101	99	100	101	104	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	18.7	5.6	10.3	0.2	14.4	12.9
Vehicles Exited	262	21	487	78	635	1483
Hourly Exit Rate	262	21	487	78	635	1483
Input Volume	280	20	490	80	634	1504
% of Volume	94	104	99	97	100	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	16.2	16.6	0	12
Total Del/Veh (s)	11.6	4.4	136	187	3.8	129
Vehicles Exited	266	22	263	660	78	1289
Hourly Exit Rate	266	22	263	660	78	1289
Input Volume	264	20	280	720	80	1364
% of Volume	101	109	94	92	97	95
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	4	10	0	14

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0		0	0		0	0	0	0	0	0	0	0
Total Del/Veh (s)	17.3		21.2	22.2		21.1	21.2	14.1	5.1	16.9	15.9	10.2	16.3
Vehicles Exited	38	0	138	322	0	255	128	411	142	52	535	280	2301
Hourly Exit Rate	38	0	138	322	0	255	128	411	142	52	535	280	2301
Input Volume	40	0	140	330	0	250	130	410	140	50	530	280	2302
% of Volume	96	0	98	98	0	102	98	100	101	104	101	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.2	0.6	0.2	0.4	0.3	0.1	0.2	2.7	0.1	0.2	0.3
Total Del/Veh (s)	186	41.9	11.2	157	165	120	75.3	35.2	15.8	57.1	34.4	23.3	90.2
Vehicles Exited	314	911	234	391	1522	437	305	915	286	157	676	175	6323
Hourly Exit Rate	314	911	234	391	1522	437	305	915	286	157	676	175	6323
Input Volume	320	910	240	410	1590	440	310	920	290	160	670	180	6440
% of Volume	98	100	97	95	96	99	98	99	99	98	101	97	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

8: NCC SPUI & Coffee Rd Performance by movement

Movement	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NET	NER2	SWL	SWT	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0		0	0	0	0	0
Total Del/Veh (s)	30.4	8.4	7.6	29.8	20.7	36.2	24.6		13.7	34.6	0.2	31.7	24.9
Vehicles Exited	442	190	352	30	298	418	82	0	70	374	2	55	2313
Hourly Exit Rate	442	190	352	30	298	418	82	0	70	374	2	55	2313
Input Volume	440	191	350	30	290	430	80	0	70	370	1	50	2302
% of Volume	101	99	101	101	103	97	102		100	101	200	110	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.3	0.1	2.3	0.8	0.1	0.1	2.6	0.1	0.2	2.7	0.2	2.7	0.8
Total Del/Veh (s)	74.9	29.3	9.5	51.6	45.9	27	50.1	25.5	15.4	48.1	39.9	34.5	38.8
Vehicles Exited	232	783	248	157	1538	113	435	453	153	61	423	429	5025
Hourly Exit Rate	232	783	248	157	1538	113	435	453	153	61	423	429	5025
Input Volume	230	780	250	160	1530	110	440	450	150	60	430	430	5019
% of Volume	101	100	99	98	101	103	99	101	102	102	98	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.5	0.1	0.1	0.3	0.1	0.2	1.6	0.2	0.1	1.8	0.4	1.6	0.5
Total Del/Veh (s)	43	14.1	5.6	41.9	16.5	12.9	39.3	28.7	30.6	41.8	33.3	8.6	23.4

Vehicles Exited	49	218	43	145	577	54	141	62	98	71	74	124	1656
Hourly Exit Rate	49	218	43	145	577	54	141	62	98	71	74	124	1656
Input Volume	50	220	40	150	570	50	140	60	90	70	70	120	1630
% of Volume	98	99	108	97	101	108	101	103	109	101	105	103	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.3	0.2	0.4	0.3	3.3	0	0	0	0.3	0.1	0.1	0.4
Total Del/Veh (s)	28.3	40.1	11.2	30.8	42.8	3.7	43	22.6	7.1	39.7	25.7	22.1	24.2
Vehicles Exited	88	38	94	445	19	69	48	269	240	71	527	53	1961
Hourly Exit Rate	88	38	94	445	19	69	48	269	240	71	527	53	1961
Input Volume	90	40	90	450	20	70	50	270	240	70	520	50	1960
% of Volume	98	96	105	99	94	98	96	100	100	101	101	106	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.2	2.8	3.2	0.1	3.2	0.4	0.1	0.2	2.9	0.7	3	1
Total Del/Veh (s)	52.9	31.1	3.1	54.6	58.2	7.5	50.3	15.5	7.2	59.7	60.3	23.3	40.7
Vehicles Exited	380	271	298	26	478	32	847	358	38	31	580	507	3846
Hourly Exit Rate	380	271	298	26	478	32	847	358	38	31	580	507	3846
Input Volume	390	270	300	30	470	30	850	360	40	30	580	490	3840
% of Volume	97	100	99	87	102	108	100	99	96	104	100	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.4	0.4	0.4	3.5	0.5	0.5	2	0.9	2.1	0.9
Total Del/Veh (s)	43	25.4	12.7	55.1	35.6	14	34.6	44	35	38.4	38.4	14.1	31.7
Vehicles Exited	126	120	38	37	201	220	72	252	51	160	206	208	1691
Hourly Exit Rate	126	120	38	37	201	220	72	252	51	160	206	208	1691
Input Volume	130	120	40	40	200	220	70	250	50	160	200	190	1670

% of Volume	97	100	96	93	101	100	102	101	102	100	103	109	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.9	3.7	3.9	0.4	3.9	0	0	0	0	0	0	0.9
Total Del/Veh (s)	26.7	16.9	6.5	28.2	18.8	3.2	28.8	15.5	4.2	27.7	16.4	6.8	15.9
Vehicles Exited	41	47	211	26	79	55	143	350	21	20	422	23	1438
Hourly Exit Rate	41	47	211	26	79	55	143	350	21	20	422	23	1438
Input Volume	40	50	210	30	80	50	140	360	20	20	420	20	1441
% of Volume	103	94	101	87	98	110	102	97	104	99	100	114	100
Denied Entry Before	0	0	1	0	0	0	0	0	0	0	0	0	1
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.2	4	0.1
Total Del/Veh (s)	6.4	3.3	10.6	3.5	11.6	3.4	5.8
Vehicles Exited	128	144	98	361	117	20	868
Hourly Exit Rate	128	144	98	361	117	20	868
Input Volume	130	140	100	360	110	20	861
% of Volume	98	103	98	100	106	99	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	41.7	33.2	9.7	38.8	28.6	6.1	60.1	37.9	19.7	56.8	64.7	25.7	33.3
Vehicles Exited	302	1387	336	464	1236	61	351	189	420	57	229	376	5408
Hourly Exit Rate	302	1387	336	464	1236	61	351	189	420	57	229	376	5408
Input Volume	300	1370	330	460	1220	60	350	190	430	60	231	380	5381
% of Volume	101	101	102	101	101	102	100	99	98	95	99	99	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2	0.6	0.6	0.3	0.3	0.3	2.4	0.2	0.2	0	0	0	0.9
Total Del/Veh (s)	15.8	8.6	3.5	23	17.7	8.8	15.8	12	4	14.1	12.9	3.7	13.4
Vehicles Exited	243	81	52	52	168	81	46	10	50	58	9	20	870
Hourly Exit Rate	243	81	52	52	168	81	46	10	50	58	9	20	870
Input Volume	240	80	50	50	170	80	50	10	50	60	10	20	872
% of Volume	101	101	104	104	99	101	92	98	100	97	88	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	4.1	0.2	0.2	4	0.6
Total Del/Veh (s)	4.3	1.8	1.4	2.1	2.8	1	7.1	11.3	3.3	7.7	11.3	4.1	3.5
Vehicles Exited	21	134	30	30	304	53	27	21	28	20	41	28	737
Hourly Exit Rate	21	134	30	30	304	53	27	21	28	20	41	28	737
Input Volume	20	130	30	30	300	50	30	20	30	20	40	30	730
% of Volume	104	103	101	101	101	106	91	104	94	99	103	94	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.3	0.4	0.4	3.8	0.4	0.4	2.1	0.6	2.1	0.8
Total Del/Veh (s)	24.4	13.2	7.9	27	15.3	6.9	18.3	13.1	5.8	18.8	14.7	5.3	14.2
Vehicles Exited	78	379	62	63	296	78	115	70	41	137	78	151	1548
Hourly Exit Rate	78	379	62	63	296	78	115	70	41	137	78	151	1548
Input Volume	80	390	60	60	290	80	110	70	40	130	80	150	1541
% of Volume	97	97	103	105	102	97	105	100	103	105	97	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.6	0.5	0.5	0.3	0.1	0.1	1.9	0.6	2	0.2	0.2	0.2	0.4
Total Del/Veh (s)	62.1	32.7	23.2	50.6	40.3	11.7	39.8	40.1	7.1	46.1	40.9	36	36.1
Vehicles Exited	110	313	89	20	202	325	114	330	42	321	462	88	2416
Hourly Exit Rate	110	313	89	20	202	325	114	330	42	321	462	88	2416
Input Volume	120	320	90	20	200	320	110	330	40	320	460	90	2418
% of Volume	92	98	99	99	101	102	104	100	106	100	100	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.8	0.1	0.2	0.3	0.1	0.1	2	0.8	2.1	0.3	0.3	0.3	0.7
Total Del/Veh (s)	33.2	21.7	11.1	31.6	16.5	6.9	34.5	21.4	6.3	35.5	26.6	9.6	22.2
Vehicles Exited	72	251	156	175	191	54	280	121	104	48	161	139	1752
Hourly Exit Rate	72	251	156	175	191	54	280	121	104	48	161	139	1752
Input Volume	70	250	160	170	190	50	280	120	100	50	160	140	1740
% of Volume	102	100	98	103	100	108	100	101	104	96	101	99	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	3.4	0.8	3.5	3.1	1.7	3.4	0	0	0	1.2
Total Del/Veh (s)	38.5	31.4	6.4	38	30.5	11.5	42.1	26.6	15.4	43.1	23.7	19.2	25.1
Vehicles Exited	50	50	38	28	126	264	47	707	20	106	654	82	2172
Hourly Exit Rate	50	50	38	28	126	264	47	707	20	106	654	82	2172
Input Volume	50	50	40	30	120	270	50	700	20	110	650	80	2170
% of Volume	100	100	96	94	105	98	94	101	99	96	101	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.5	3.8	2.1	0.4	0.4	2.9	0.2	0.3	3.1	0.2	3	0.7
Total Del/Veh (s)	36	26.3	6.7	38	29.2	17.6	35.8	15.4	8.9	35.9	19.9	6.9	20.1

Vehicles Exited	18	82	88	40	222	33	102	671	40	30	637	42	2005
Hourly Exit Rate	18	82	88	40	222	33	102	671	40	30	637	42	2005
Input Volume	20	80	80	40	230	30	110	680	40	30	650	40	2030
% of Volume	89	102	110	101	97	111	93	99	101	101	98	106	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	20.1	0.1	24.3	22.1	22.3	27.5	11.4	11.2	28.8	9.8	10.4	14.1
Vehicles Exited	85	2	40	261	75	80	398	478	103	429	534	2485
Hourly Exit Rate	85	2	40	261	75	80	398	478	103	429	534	2485
Input Volume	90	1	40	260	70	80	400	470	100	432	530	2472
% of Volume	95	200	101	100	107	100	100	102	103	99	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

25: NCC SPUI & Roselle Performance by movement

Movement	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	23.1	13.7	8.4	28.6	19.5	9.8	16.4	17.5	21.9	22.3	17.5
Vehicles Exited	270	424	362	115	482	60	19	142	276	72	2222
Hourly Exit Rate	270	424	362	115	482	60	19	142	276	72	2222
Input Volume	260	430	360	120	481	60	20	140	270	70	2212
% of Volume	104	99	100	96	100	100	94	101	102	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0

26: Crane Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0	0	0.4	0.2	0.2	0.1
Total Del/Veh (s)	34.8	13.7	2.7	46.8	24.3	5.6	38.2	29.1	12.1	39	28.7	13.4	20
Vehicles Exited	558	1297	20	48	806	32	39	59	174	69	51	882	4035
Hourly Exit Rate	558	1297	20	48	806	32	39	59	174	69	51	882	4035
Input Volume	550	1290	20	50	821	30	40	61	170	70	50	880	4032

% of Volume	102	101	99	96	98	108	98	97	102	98	102	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

27: Albers Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	41.5	22.7	6.4	43.8	76.2	28	66.3	63	18.5	61.2	32.8	6.3	40.5
Vehicles Exited	981	402	163	271	458	81	20	736	266	30	405	411	4224
Hourly Exit Rate	981	402	163	271	458	81	20	736	266	30	405	411	4224
Input Volume	980	391	160	280	461	80	20	742	260	30	400	420	4224
% of Volume	100	103	102	97	99	101	99	99	102	101	101	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0
Total Del/Veh (s)	7.2	9.9	5.4	8	10.2	5.3	6	5.8	3.2	4.9	5.3	5.1	8
Vehicles Exited	289	353	56	48	474	18	49	9	48	18	11	288	1661
Hourly Exit Rate	289	353	56	48	474	18	49	9	48	18	11	288	1661
Input Volume	280	350	50	50	480	20	50	10	50	20	10	290	1662
% of Volume	103	101	112	96	99	89	98	88	96	89	105	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.1	0	0	0	0	0	0	0.2	0.2	0.2	0
Total Del/Veh (s)	8.5	11.8	1.8	9.7	9.4	4.1	2.3	5.3	5.9	8.8	9.2	4.8	8.5
Vehicles Exited	31	247	36	472	481	10	19	11	393	20	31	103	1854
Hourly Exit Rate	31	247	36	472	481	10	19	11	393	20	31	103	1854
Input Volume	30	250	40	480	480	10	20	10	390	20	30	110	1871
% of Volume	104	99	91	98	100	98	94	105	101	99	104	94	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.2	4.1	0.2	0.2	0	0	0	1.6	0.2	1.4	0.2
Total Del/Veh (s)	20	15.7	5.3	19.8	14.4	4.4	17.6	5.7	3.6	21.4	7.4	3.5	7.8
Vehicles Exited	31	11	40	19	9	22	97	587	22	21	808	18	1685
Hourly Exit Rate	31	11	40	19	9	22	97	587	22	21	808	18	1685
Input Volume	30	10	40	20	10	20	100	581	20	20	800	20	1672
% of Volume	104	107	101	94	88	109	97	101	109	104	101	89	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.2	3.6	0.5	0.6	3.2	0.3	3.2	0	0	0	0.6
Total Del/Veh (s)	27.3	28.7	9.3	21.3	19.5	7.3	26.4	11.9	3.7	22.6	9.5	1.9	11.6
Vehicles Exited	30	12	33	117	9	196	37	453	105	137	797	63	1989
Hourly Exit Rate	30	12	33	117	9	196	37	453	105	137	797	63	1989
Input Volume	30	10	30	120	10	190	40	460	100	140	800	60	1990
% of Volume	101	117	111	98	88	103	93	98	105	98	100	105	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4	0.2	0.2	0.2	0.2	0.2	0	0	0	3	0.3	3	0.6
Total Del/Veh (s)	16.5	13.9	5.7	16.7	11.8	3.5	20.1	7.8	3.5	19.8	9.2	4.4	10
Vehicles Exited	53	9	52	98	9	55	49	224	53	51	593	50	1296
Hourly Exit Rate	53	9	52	98	9	55	49	224	53	51	593	50	1296
Input Volume	50	10	50	100	10	50	50	221	50	50	600	50	1291
% of Volume	106	88	104	98	88	110	98	101	106	102	99	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.3	0.4	3.8	0.4	0.3	2.9	0.4	2.7	0	0	0	0.6
Total Del/Veh (s)	22.9	16.6	4.5	19.1	16.9	8.4	25.9	12.3	3.5	24.7	9.2	5.2	12.3
Vehicles Exited	102	11	50	47	10	97	49	787	48	101	544	96	1942
Hourly Exit Rate	102	11	50	47	10	97	49	787	48	101	544	96	1942
Input Volume	100	10	50	50	10	100	50	780	50	100	532	100	1931
% of Volume	102	107	100	94	98	97	98	101	96	101	102	96	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.7	0.5	3.8	0.5	0.5	2.8	0.6	3	0	0	0	0.8
Total Del/Veh (s)	19	16.8	6.7	17.8	14.8	8.1	23.7	11.1	2.8	26.4	10.5	3.1	11.6
Vehicles Exited	124	8	117	97	10	106	37	726	47	47	646	39	2004
Hourly Exit Rate	124	8	117	97	10	106	37	726	47	47	646	39	2004
Input Volume	120	10	120	100	10	100	40	730	50	50	640	40	2010
% of Volume	103	78	98	97	98	106	93	99	94	94	101	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	2	0.4	0.3	0.4	0	0	0.2
Total Del/Veh (s)	18.6	10.4	11.5	6.7	25.2	8.2	10.4
Vehicles Exited	50	284	773	52	52	847	2058
Hourly Exit Rate	50	284	773	52	52	847	2058
Input Volume	50	280	770	50	50	840	2040
% of Volume	100	101	100	104	104	101	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	4.2	0.2	0.1	0	0	0	0.2
Total Del/Veh (s)	5.7	6.9	2.8	5.4	6.6	3.1	2.5	0.3	0.2	2.6	1.1	1	1.6

Vehicles Exited	9	9	9	9	10	10	8	108	12	11	84	11	290
Hourly Exit Rate	9	9	9	9	10	10	8	108	12	11	84	11	290
Input Volume	10	10	10	10	10	10	10	110	10	10	80	10	293
% of Volume	88	88	88	88	98	98	78	98	117	107	105	107	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.2	0.2	0.1	0	0	0	3.1	0.2	0.3	0.2
Total Del/Veh (s)	16.3	13.4	5.5	15.6	16.7	7.1	23.3	10.4	9.7	20.9	9	5.3	10.6
Vehicles Exited	40	11	77	111	10	20	42	283	230	37	474	53	1388
Hourly Exit Rate	40	11	77	111	10	20	42	283	230	37	474	53	1388
Input Volume	40	10	80	120	10	20	40	281	230	40	470	50	1392
% of Volume	101	105	96	92	98	99	106	101	100	93	101	106	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.3	1.3	0	0	0.1
Total Del/Veh (s)	18.1	10.8	12.4	5.1	26	8.7	11.6
Vehicles Exited	93	258	701	49	132	900	2133
Hourly Exit Rate	93	258	701	49	132	900	2133
Input Volume	100	260	710	50	130	890	2140
% of Volume	93	99	99	98	101	101	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0.1	0.1	3.7	0.8	1.6
Total Del/Veh (s)	11.8	0.4	3.2	11.4	4	9.3	3.2	6.5
Vehicles Exited	39	1	277	17	38	278	22	672
Hourly Exit Rate	39	1	277	17	38	278	22	672
Input Volume	40	1	270	20	40	280	20	671

% of Volume	98	100	103	84	96	99	109	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

40: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	640	640
Hourly Exit Rate	640	640
Input Volume	630	630
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	405	405
Hourly Exit Rate	405	405
Input Volume	400	400
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	787	787
Hourly Exit Rate	787	787
Input Volume	800	800
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10	10
Vehicles Exited	768	768
Hourly Exit Rate	768	768
Input Volume	770	770
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	1670	1670
Hourly Exit Rate	1670	1670
Input Volume	1680	1680
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	166	166
Hourly Exit Rate	166	166
Input Volume	160	160
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	246	246
Hourly Exit Rate	246	246
Input Volume	240	240
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	492	492
Hourly Exit Rate	492	492
Input Volume	490	490
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	175	175
Hourly Exit Rate	175	175
Input Volume	180	180
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7

Vehicles Exited	227	227
Hourly Exit Rate	227	227
Input Volume	231	231
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	203	203
Hourly Exit Rate	203	203
Input Volume	200	200
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.8	10.8
Vehicles Exited	2005	2005
Hourly Exit Rate	2005	2005
Input Volume	2080	2080
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.5	5.5
Vehicles Exited	718	718
Hourly Exit Rate	718	718
Input Volume	720	720

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	906	906
Hourly Exit Rate	906	906
Input Volume	910	910
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0	0.4	0.2
Total Del/Veh (s)	5.6	6	5.8
Vehicles Exited	1863	1763	3626
Hourly Exit Rate	1863	1763	3626
Input Volume	1860	1740	3600
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	87	87
Hourly Exit Rate	87	87
Input Volume	90	90
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

56: NCC SPUI Performance by movement

Movement	NET	NER	NER2	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	0.5	2.4	1.1	2.2
Vehicles Exited	1	822	176	999
Hourly Exit Rate	1	822	176	999
Input Volume	0	820	180	1000
% of Volume	400	100	98	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

57: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.4	1.2	1.4
Vehicles Exited	827	195	1022
Hourly Exit Rate	827	195	1022
Input Volume	820	190	1010
% of Volume	101	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

58: NCC SPUI Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.6	1.5	1.6
Vehicles Exited	2075	577	2652
Hourly Exit Rate	2075	577	2652
Input Volume	2080	580	2660
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	1020	1020
Hourly Exit Rate	1020	1020
Input Volume	1010	1010
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	640	640
Hourly Exit Rate	640	640
Input Volume	630	630
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	338	338
Hourly Exit Rate	338	338
Input Volume	340	340
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

62: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.1	5	3.3

Vehicles Exited	1543	159	1702
Hourly Exit Rate	1543	159	1702
Input Volume	1520	160	1680
% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

63: NCC Performance by movement

Movement	EBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	7.4	4.4	4.4	5.3
Vehicles Exited	999	1	2483	3483
Hourly Exit Rate	999	1	2483	3483
Input Volume	1000	1	2490	3490
% of Volume	100	133	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	330	330
Hourly Exit Rate	330	330
Input Volume	330	330
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	424	424
Hourly Exit Rate	424	424
Input Volume	430	430

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	341	341
Hourly Exit Rate	341	341
Input Volume	339	339
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	241	241
Hourly Exit Rate	241	241
Input Volume	240	240
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	185	185
Hourly Exit Rate	185	185
Input Volume	190	190
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	216	216
Hourly Exit Rate	216	216
Input Volume	221	221
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	519	519
Hourly Exit Rate	519	519
Input Volume	521	521
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	1833	1833
Hourly Exit Rate	1833	1833
Input Volume	1810	1810
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

72: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	2021	2021
Hourly Exit Rate	2021	2021
Input Volume	2000	2000
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.4	0	0.2
Total Del/Veh (s)	2.6	3.8	3.2
Vehicles Exited	519	562	1081
Hourly Exit Rate	519	562	1081
Input Volume	530	550	1080
% of Volume	98	102	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.4	0.2
Total Del/Veh (s)	3.4	0.5	1.9
Vehicles Exited	445	465	910
Hourly Exit Rate	445	465	910
Input Volume	450	461	911
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

75: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4

Vehicles Exited	1722	1722
Hourly Exit Rate	1722	1722
Input Volume	1740	1740
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.9	8.9
Vehicles Exited	1975	1975
Hourly Exit Rate	1975	1975
Input Volume	1980	1980
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

77: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	2650	2650
Hourly Exit Rate	2650	2650
Input Volume	2660	2660
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	54	54
Hourly Exit Rate	54	54
Input Volume	51	51

% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	369	369
Hourly Exit Rate	369	369
Input Volume	380	380
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	150	150
Hourly Exit Rate	150	150
Input Volume	150	150
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	3.3		2.1	3.1
Vehicles Exited	1544	0	475	2019
Hourly Exit Rate	1544	0	475	2019
Input Volume	1520	0	480	2000
% of Volume	102	0	99	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	120	120
Hourly Exit Rate	120	120
Input Volume	120	120
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	560	560
Hourly Exit Rate	560	560
Input Volume	560	560
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.2	3.9	2.5
Vehicles Exited	1611	349	1960
Hourly Exit Rate	1611	349	1960
Input Volume	1610	340	1950
% of Volume	100	103	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	0.3	1.5	1.1
Vehicles Exited	272	479	751
Hourly Exit Rate	272	479	751
Input Volume	270	470	741
% of Volume	101	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.4	0	0.3
Total Del/Veh (s)	0.5	2	0.9
Vehicles Exited	459	149	608
Hourly Exit Rate	459	149	608
Input Volume	460	150	610
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	561	561
Hourly Exit Rate	561	561
Input Volume	550	550
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6

Vehicles Exited	766	766
Hourly Exit Rate	766	766
Input Volume	770	770
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	724	724
Hourly Exit Rate	724	724
Input Volume	730	730
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.5	0	0.2
Total Del/Veh (s)	2.1	7.8	5.6
Vehicles Exited	566	890	1456
Hourly Exit Rate	566	890	1456
Input Volume	570	910	1480
% of Volume	99	98	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	359	359
Hourly Exit Rate	359	359
Input Volume	360	360

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

92: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	182	182
Hourly Exit Rate	182	182
Input Volume	180	180
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	599	599
Hourly Exit Rate	599	599
Input Volume	600	600
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	102	102
Hourly Exit Rate	102	102
Input Volume	99	99
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	94	94
Hourly Exit Rate	94	94
Input Volume	90	90
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

96: Performance by movement

Movement	WBT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.3	2.4	3.2
Vehicles Exited	1612	330	1942
Hourly Exit Rate	1612	330	1942
Input Volume	1610	320	1930
% of Volume	100	103	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	189	189
Hourly Exit Rate	189	189
Input Volume	190	190
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	611	611
Hourly Exit Rate	611	611
Input Volume	610	610
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	245	245
Hourly Exit Rate	245	245
Input Volume	241	241
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

100: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1957	1957
Hourly Exit Rate	1957	1957
Input Volume	1950	1950
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.8	1.9	2.6

Vehicles Exited	2076	409	2485
Hourly Exit Rate	2076	409	2485
Input Volume	2080	411	2491
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	888	888
Hourly Exit Rate	888	888
Input Volume	910	910
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

103: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	1944	1944
Hourly Exit Rate	1944	1944
Input Volume	1930	1930
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	945	945
Hourly Exit Rate	945	945
Input Volume	950	950

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	798	798
Hourly Exit Rate	798	798
Input Volume	790	790
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	2394	2394
Hourly Exit Rate	2394	2394
Input Volume	2400	2400
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	841	841
Hourly Exit Rate	841	841
Input Volume	830	830
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	262	262
Hourly Exit Rate	262	262
Input Volume	260	260
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

109: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.1	1.3	1.4	1.2
Vehicles Exited	868	1	382	1251
Hourly Exit Rate	868	1	382	1251
Input Volume	860	1	380	1240
% of Volume	101	133	101	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.1	7.1
Vehicles Exited	991	991
Hourly Exit Rate	991	991
Input Volume	990	990
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	769	769
Hourly Exit Rate	769	769
Input Volume	780	780
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	482	482
Hourly Exit Rate	482	482
Input Volume	460	460
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	351	351
Hourly Exit Rate	351	351
Input Volume	350	350
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3

Vehicles Exited	341	341
Hourly Exit Rate	341	341
Input Volume	340	340
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	479	479
Hourly Exit Rate	479	479
Input Volume	470	470
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	388	388
Hourly Exit Rate	388	388
Input Volume	380	380
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

117: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	1.2	0.9
Vehicles Exited	1607	336	1943
Hourly Exit Rate	1607	336	1943
Input Volume	1601	330	1931

% of Volume	100	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

118: Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	2.4	1.6	2	2.3
Vehicles Exited	1605	1	613	2219
Hourly Exit Rate	1605	1	613	2219
Input Volume	1600	1	610	2211
% of Volume	100	100	101	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	568	568
Hourly Exit Rate	568	568
Input Volume	570	570
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	401	401
Hourly Exit Rate	401	401
Input Volume	400	400
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

121: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	278	278
Hourly Exit Rate	278	278
Input Volume	280	280
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

122: NCC Performance by movement

Movement	WBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.7	1.8	3.2
Vehicles Exited	1958	2022	3980
Hourly Exit Rate	1958	2022	3980
Input Volume	1950	2000	3950
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	254	254
Hourly Exit Rate	254	254
Input Volume	250	250
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

124: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	31	31
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

125: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.3	1.1	2.2
Vehicles Exited	1120	127	1247
Hourly Exit Rate	1120	127	1247
Input Volume	1110	130	1240
% of Volume	101	98	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	1249	1249
Hourly Exit Rate	1249	1249
Input Volume	1240	1240
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

127: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.2	2.4	2.3

Vehicles Exited	1120	581	1701
Hourly Exit Rate	1120	581	1701
Input Volume	1110	570	1680
% of Volume	101	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

128: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	896	896
Hourly Exit Rate	896	896
Input Volume	890	890
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

129: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	1701	1701
Hourly Exit Rate	1701	1701
Input Volume	1680	1680
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	2221	2221
Hourly Exit Rate	2221	2221
Input Volume	2210	2210

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	648	648
Hourly Exit Rate	648	648
Input Volume	640	640
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0.4	0	0.2
Total Del/Veh (s)	9.8	7.3	8.6
Vehicles Exited	1874	1726	3600
Hourly Exit Rate	1874	1726	3600
Input Volume	1860	1740	3600
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	31	31
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

134: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	13.9	5.2	10.8
Vehicles Exited	1545	890	2435
Hourly Exit Rate	1545	890	2435
Input Volume	1530	900	2430
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.1	6.1
Vehicles Exited	1298	1298
Hourly Exit Rate	1298	1298
Input Volume	1320	1320
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

136: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.9	4.9	5.4
Vehicles Exited	695	808	1503
Hourly Exit Rate	695	808	1503
Input Volume	680	820	1500
% of Volume	102	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

137: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	6.3	1.9	3.9
Vehicles Exited	694	810	1504
Hourly Exit Rate	694	810	1504
Input Volume	680	820	1500
% of Volume	102	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

138: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	149	149
Hourly Exit Rate	149	149
Input Volume	150	150
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	676	676
Hourly Exit Rate	676	676
Input Volume	679	679
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

140: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.6	9.6

Vehicles Exited	766	766
Hourly Exit Rate	766	766
Input Volume	810	810
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

141: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	61	61
Hourly Exit Rate	61	61
Input Volume	60	60
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

142: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	295	295
Hourly Exit Rate	295	295
Input Volume	290	290
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	602	602
Hourly Exit Rate	602	602
Input Volume	610	610

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.3	0.2
Total Del/Veh (s)	4.1	1	2.3
Vehicles Exited	660	962	1622
Hourly Exit Rate	660	962	1622
Input Volume	660	971	1631
% of Volume	100	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	51	51
Hourly Exit Rate	51	51
Input Volume	50	50
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

146: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	660	660
Hourly Exit Rate	660	660
Input Volume	660	660
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

147: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	1795	1795
Hourly Exit Rate	1795	1795
Input Volume	1800	1800
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

148: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	103	103
Hourly Exit Rate	103	103
Input Volume	101	101
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

149: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.3	0.1
Total Del/Veh (s)	11.4	0.7	8
Vehicles Exited	1795	848	2643
Hourly Exit Rate	1795	848	2643
Input Volume	1800	850	2650
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	125	125
Hourly Exit Rate	125	125
Input Volume	130	130
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

151: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	445	445
Hourly Exit Rate	445	445
Input Volume	450	450
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	13.2	7.2	10.3
Vehicles Exited	1863	1763	3626
Hourly Exit Rate	1863	1763	3626
Input Volume	1860	1740	3600
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	10.7	6.1

Vehicles Exited	2023	1959	3982
Hourly Exit Rate	2023	1959	3982
Input Volume	2000	1950	3950
% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

157: Crane Rd Performance by movement

Movement	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0
Total Del/Veh (s)	1.7	1.5	2	1.6	1.7
Vehicles Exited	272	62	88	32	454
Hourly Exit Rate	272	62	88	32	454
Input Volume	271	60	91	30	451
% of Volume	100	103	97	108	101
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

158: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	30	30
% of Volume	108	108
Denied Entry Before	0	0
Denied Entry After	0	0

159: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	62	62
Hourly Exit Rate	62	62
Input Volume	60	60

% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

163: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	860	860
Hourly Exit Rate	860	860
Input Volume	860	860
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

164: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	1200	1200
Hourly Exit Rate	1200	1200
Input Volume	1190	1190
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

165: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	830	830
Hourly Exit Rate	830	830
Input Volume	840	840
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	108	108
Hourly Exit Rate	108	108
Input Volume	110	110
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	155	155
Hourly Exit Rate	155	155
Input Volume	160	160
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	160	160
Hourly Exit Rate	160	160
Input Volume	160	160
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

172: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	280	280
Hourly Exit Rate	280	280
Input Volume	279	279
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	85	85
Hourly Exit Rate	85	85
Input Volume	90	90
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.6	5.6
Vehicles Exited	234	234
Hourly Exit Rate	234	234
Input Volume	240	240
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1

Vehicles Exited	103	103
Hourly Exit Rate	103	103
Input Volume	100	100
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

177: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	181	181
Hourly Exit Rate	181	181
Input Volume	180	180
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

178: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	114	114
Hourly Exit Rate	114	114
Input Volume	110	110
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

179: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	1362	1362
Hourly Exit Rate	1362	1362
Input Volume	1360	1360

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	109	109
Hourly Exit Rate	109	109
Input Volume	110	110
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	254	254
Hourly Exit Rate	254	254
Input Volume	250	250
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	331	331
Hourly Exit Rate	331	331
Input Volume	320	320
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	102	102
Hourly Exit Rate	102	102
Input Volume	110	110
% of Volume	93	93
Denied Entry Before	0	0
Denied Entry After	0	0

184: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	112	112
Hourly Exit Rate	112	112
Input Volume	110	110
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

185: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	989	989
Hourly Exit Rate	989	989
Input Volume	990	990
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

186: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.3	0.2
Total Del/Veh (s)	1.4	0.1	0.6
Vehicles Exited	181	352	533
Hourly Exit Rate	181	352	533
Input Volume	180	360	540
% of Volume	100	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

187: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	1867	1867
Hourly Exit Rate	1867	1867
Input Volume	1860	1860
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

188: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	8.9	7.6	8.4
Vehicles Exited	1539	890	2429
Hourly Exit Rate	1539	890	2429
Input Volume	1530	900	2430
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

189: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4

Vehicles Exited	112	112
Hourly Exit Rate	112	112
Input Volume	110	110
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

192: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	1	0.8
Vehicles Exited	868	152	1020
Hourly Exit Rate	868	152	1020
Input Volume	861	150	1011
% of Volume	101	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

193: NCC SPUI Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.6	2.9	1.9
Vehicles Exited	1792	428	2220
Hourly Exit Rate	1792	428	2220
Input Volume	1790	420	2210
% of Volume	100	102	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

195: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	860	860
Hourly Exit Rate	860	860
Input Volume	870	870

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

196: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	1250	1250
Hourly Exit Rate	1250	1250
Input Volume	1240	1240
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

198: Performance by movement

Movement	WBT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.1	0.3	1.5
Vehicles Exited	1792	862	2654
Hourly Exit Rate	1792	862	2654
Input Volume	1790	870	2660
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

199: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	861	861
Hourly Exit Rate	861	861
Input Volume	870	870
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	1942	1942
Hourly Exit Rate	1942	1942
Input Volume	1930	1930
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	195	195
Hourly Exit Rate	195	195
Input Volume	190	190
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

300: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.7	2.7	2.7
Vehicles Exited	679	995	1674
Hourly Exit Rate	679	995	1674
Input Volume	680	1000	1680
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.5	5.5
Vehicles Exited	2483	2483
Hourly Exit Rate	2483	2483
Input Volume	2490	2490
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

500: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.1	0	0
Total Del/Veh (s)	0.6	2.2	1.8
Vehicles Exited	430	1202	1632
Hourly Exit Rate	430	1202	1632
Input Volume	430	1190	1620
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

501: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.9	4	3.9
Vehicles Exited	956	1030	1986
Hourly Exit Rate	956	1030	1986
Input Volume	970	1020	1990
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	1
Total Del/Veh (s)	60.8

Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	22
Denied Entry Before	1
Denied Entry After	14

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Queuing ar AM Peak Hour
2042 Alterr 9/3/2014

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	151	356	384	431	194	436	509	749	518	125	333	206	88	287
Average Queue (ft)	67	204	238	270	57	228	264	300	295	29	181	61	28	140
95th Queue (ft)	130	319	361	402	142	416	476	588	474	95	308	151	69	244
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	530				410	580				530	330		300	
Storage Blk Time (%)				1		1	0		0		1			0
Queuing Penalty (veh)				1		5	0		0		1			0

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	L	T	T	TR
Maximum Queue (ft)	130	468	250	261	327	250	285	282	386	631	416	56	106	101	102	81	63	34	94	88	82	124
Average Queue (ft)	47	130	137	149	155	129	177	178	193	216	222	14	40	43	44	31	17	2	27	38	30	41
95th Queue (ft)	102	389	243	260	284	228	260	259	336	491	363	41	82	82	88	64	47	17	68	74	69	91
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923		3946	3946	3946
Upstream Blk Time (%)										0												
Queuing Penalty (veh)										0												
Storage Bay Dist (ft)	715				355	920	920	920				750	800						550			

Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	300	385	140	506	220	192	282	271	254	423	456
Average Queue (ft)	178	136	33	489	135	46	161	148	80	236	277
95th Queue (ft)	295	292	104	552	279	126	258	238	184	379	423
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				40							
Queuing Penalty (veh)				288							
Storage Bay Dist (ft)	250		90		160	185			290		
Storage Blk Time (%)	5	0	1	64	0	0	6			4	
Queuing Penalty (veh)	14	1	8	108	1	0	2			3	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	195	216	292	265
Average Queue (ft)	109	109	126	99
95th Queue (ft)	173	189	254	218
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	199	590	2787	54
Average Queue (ft)	83	418	1630	16
95th Queue (ft)	162	808	3614	41
Link Distance (ft)	491		3699	672

Upstream Blk Time (%)		11
Queuing Penalty (veh)		0
Storage Bay Dist (ft)	530	
Storage Blk Time (%)	0	41
Queuing Penalty (veh)	0	115

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	L	T	T	T	>
Maximum Queue (ft)	52	72	174	158	158	244	149	125	122	116	77	76	93	164	172	116	187
Average Queue (ft)	7	21	77	74	86	126	64	60	57	41	27	18	28	78	87	36	76
95th Queue (ft)	30	54	145	128	135	208	125	108	104	89	64	56	71	137	150	92	146
Link Distance (ft)			1092			1084		737	737	737	737			1039	1039	1039	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300	300		300	300		700					300	550				650
Storage Blk Time (%)						0											
Queuing Penalty (veh)						0											

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	347	368	515	409	299	147	311	360	1861	1823	1783	410	243	271	351	330	325	260	177	200	335	315	318
Average Queue (ft)	260	278	270	208	197	66	170	327	1112	1100	1108	379	153	170	194	207	178	115	58	111	207	192	164
95th Queue (ft)	424	449	576	307	274	120	273	451	2082	2054	2051	504	244	260	308	293	281	224	147	180	303	289	275
Link Distance (ft)			4930	4930	4930				3510	3510	3510				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)																							
Queuing Penalty (veh)																							
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)	9	20			0		1	1	50		48	4	1	4	2		5	0					
Queuing Penalty (veh)	28	60			0		4	6	205		212	21	2	13	6		14	1					

Intersection: 8: NCC SPUI & Coffee Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	>	L	T	T	>	L	L	>	L	L	>
Maximum Queue (ft)	413	65	65	172	85	131	262	464	53	103	97	208	205	131

Average Queue (ft)	211	18	13	52	23	64	68	213	6	28	33	98	110	44
95th Queue (ft)	361	51	44	123	62	115	219	419	31	72	78	178	176	96
Link Distance (ft)		918	918			952	952			860	860			901
Upstream Blk Time (%)							0							
Queuing Penalty (veh)							0							
Storage Bay Dist (ft)	650			650	650			650	500			500	500	
Storage Blk Time (%)	0							1						
Queuing Penalty (veh)	0							1						

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	199	236	326	282	194	139	357	522	509	465	283	316	266	240	138	302	407	346
Average Queue (ft)	101	141	197	162	66	49	137	328	332	281	160	206	133	136	57	176	147	214
95th Queue (ft)	197	222	287	257	167	101	284	487	490	439	255	291	224	220	111	260	303	343
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)	0	0	0				0	11			0	0	0			0	0	4
Queuing Penalty (veh)	0	0	1				0	18			0	1	0			0	1	9

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	116	113	128	108	120	218	242	210	110	180	137	153	128
Average Queue (ft)	44	49	49	40	63	97	116	104	46	72	61	60	54
95th Queue (ft)	94	91	101	84	102	180	204	180	96	143	113	120	104
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								1			0	8	2
Queuing Penalty (veh)								0			0	14	3

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	149	102	119	293	316	67	117	134	157	135	160	285	341
Average Queue (ft)	58	32	46	104	180	15	43	61	78	63	57	107	181
95th Queue (ft)	117	78	89	231	284	45	95	114	132	108	120	223	300
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		
Storage Blk Time (%)				0	0							0	
Queuing Penalty (veh)				0	1							0	

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	255	278	193	164	98	289	251	199	51	452	487	189	174	198	482	482	359
Average Queue (ft)	140	178	94	53	28	195	162	75	17	296	320	88	71	41	287	254	197
95th Queue (ft)	233	256	164	131	73	265	238	176	42	443	471	154	138	150	436	427	355
Link Distance (ft)		1375	1375	1375		1274	1274	1274			2052	2052	2052		480	480	
Upstream Blk Time (%)															1	1	
Queuing Penalty (veh)															0	0	
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)		0				0		0		0	1				9	2	4
Queuing Penalty (veh)		0				0		0		1	4				3	10	13

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	198	194	128	329	208	309	560	234	588	160
Average Queue (ft)	88	72	45	134	88	81	246	124	218	105
95th Queue (ft)	168	146	110	245	176	217	465	234	495	189
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			5	29	0		12	3	23	1
Queuing Penalty (veh)			21	75	1		8	12	80	5

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	104	90	131	80	109	56	185	233	82	64	182	183
Average Queue (ft)	37	30	67	22	36	20	82	92	9	19	91	76
95th Queue (ft)	81	72	109	58	84	46	153	189	45	50	150	144
Link Distance (ft)		1163			1019			1058	1058		414	414
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300	300		300	300			300		
Storage Blk Time (%)							0	0				
Queuing Penalty (veh)							0	0				

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	85	104	106	99	85	100	33
Average Queue (ft)	33	43	46	29	26	47	10
95th Queue (ft)	69	81	87	69	67	83	32
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		300	400				150
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	214	237	405	433	433	228	194	214	212	315	342	329	64	188	201	233	138	151	377	86	101	202	204	332
Average Queue (ft)	115	129	227	256	273	96	98	123	122	191	208	192	14	94	117	128	60	74	176	19	37	106	99	158
95th Queue (ft)	189	202	345	380	396	188	169	192	187	283	304	298	45	164	183	199	114	133	308	60	79	181	179	278
Link Distance (ft)			1066	1066	1066				1589	1589	1589	1589			726	726	726	726				1217	1217	
Upstream Blk Time (%)																								
Queuing Penalty (veh)																								

Storage Bay Dist (ft)	800	800				1000	970	970			850	720			840	520	520		720
Storage Blk Time (%)																			
Queuing Penalty (veh)																			

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	LT	R
Maximum Queue (ft)	184	104	98	172	84	93	100	58
Average Queue (ft)	90	24	38	85	32	32	40	13
95th Queue (ft)	154	65	79	150	70	69	84	42
Link Distance (ft)		2871		5346		1487	797	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	300		300		200			300
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 18: Bentley & Claribel

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	77	41	68	59	80	61
Average Queue (ft)	10	5	29	21	32	23
95th Queue (ft)	43	23	57	52	64	55
Link Distance (ft)	2720	2487	1498		1216	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			7	2	8	3
Queuing Penalty (veh)			2	1	2	2

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	98	151	173	97	165	133	117	114	137	136	105
Average Queue (ft)	43	65	78	41	92	54	56	45	60	38	44
95th Queue (ft)	84	127	142	79	151	104	102	87	111	91	79

Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)									2	1	1
Queuing Penalty (veh)									5	3	1

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	457	260	80	326	257	300	291	76	555	494
Average Queue (ft)	88	174	155	20	147	104	174	178	28	324	285
95th Queue (ft)	130	350	253	58	263	198	262	269	65	485	442
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	50	33	3		1			0			
Queuing Penalty (veh)	203	122	8		0			1			

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	107	178	194	184	101	135	151	166	151	109	105	189	151
Average Queue (ft)	45	80	84	92	40	49	65	100	61	44	38	88	58
95th Queue (ft)	89	146	160	160	82	104	122	149	118	90	83	154	116
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)				0			0	0	15	2	0	8	0
Queuing Penalty (veh)				0			0	0	57	6	1	15	1

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR

Maximum Queue (ft)	112	97	82	88	178	194	118	294	285	191	281	305
Average Queue (ft)	42	37	25	26	76	84	40	174	146	78	122	147
95th Queue (ft)	92	81	61	69	142	152	89	268	254	149	227	252
Link Distance (ft)		5602			2237			1498			2124	2124
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	225		225	400		300	400		
Storage Blk Time (%)					0	0		0	0			
Queuing Penalty (veh)					0	0		1	0			

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	68	128	86	115	266	196	267	257	100	267	241	78
Average Queue (ft)	16	44	29	38	128	73	131	107	31	156	122	22
95th Queue (ft)	48	93	64	85	219	151	222	207	75	240	215	59
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)					3		0					
Queuing Penalty (veh)					1		0					

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	58	104	89	123	138	132	136	128	112	138	215	162	113	117	84	241
Average Queue (ft)	10	41	31	53	70	49	53	46	36	55	102	59	45	54	15	111
95th Queue (ft)	37	84	72	103	114	101	107	96	87	110	183	123	91	101	51	199
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	600				700	600				600
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 25: NCC SPUI & Roselle

Movement	NB	NB	NB	NB	SB	SB	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	>	L	T	T	>	L	L	>	L	L	>
Maximum Queue (ft)	253	197	144	170	153	168	167	64	42	21	187	132	136	112
Average Queue (ft)	119	90	36	62	62	75	79	10	7	1	74	59	72	47
95th Queue (ft)	206	169	108	136	123	141	148	41	27	10	143	115	118	94
Link Distance (ft)		671	671			1058	1058				1221			1160
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	400			400	550			550	500	500		500	500	
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 26: Crane Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L	T	R	L	T	R	R
Maximum Queue (ft)	295	303	236	258	234	42	120	220	236	249	66	89	114	162	127	108	223	240
Average Queue (ft)	155	165	106	126	107	5	39	119	124	131	16	30	35	60	51	33	103	122
95th Queue (ft)	256	260	200	224	206	21	95	198	210	221	47	72	82	127	104	79	178	200
Link Distance (ft)		1599	1599	1599	1599			1340	1340	1340			914			2750	2750	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	750					630	930				630	150		300	275			275
Storage Blk Time (%)													0				0	0
Queuing Penalty (veh)													0				0	0

Intersection: 27: Albers Rd & NCC

Movement	EB	EB	EB	EB	EB	B188	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B149	B149
Directions Served	L	L	T	T	R	T	L	L	T	T	R	L	T	T	R	L	T	T	R	R	T	T
Maximum Queue (ft)	512	510	178	194	102	4	192	181	350	347	136	249	522	536	393	98	248	234	119	128	5	24
Average Queue (ft)	300	292	83	83	30	0	102	103	200	204	39	35	285	294	99	33	130	115	45	42	0	1
95th Queue (ft)	474	463	150	158	78	4	168	165	320	324	95	142	489	506	287	78	204	194	95	95	5	17
Link Distance (ft)		1587	1587	1587		1340			4484	4484			2124	2124			2188	2188			86	86
Upstream Blk Time (%)																						0
Queuing Penalty (veh)																						0
Storage Bay Dist (ft)	750				750		720	720			670	200			300	200			500	500		
Storage Blk Time (%)													28	11			1					

Queuing Penalty (veh)	6	28	0

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	TR	LT	TR	LT	TR
Maximum Queue (ft)	124	84	113	98	84	66	55	111
Average Queue (ft)	34	15	50	39	24	11	11	48
95th Queue (ft)	92	54	93	81	64	43	40	94
Link Distance (ft)	2821	2821	3949	3949	407	407	838	838
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	TR	LT	R	LTR
Maximum Queue (ft)	118	14	211	130	55	86	109
Average Queue (ft)	58	0	70	11	5	9	46
95th Queue (ft)	100	14	164	66	27	46	91
Link Distance (ft)	2190	2190	1153	1153	3949	3949	267
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	78	66	65	61	126	70	99	108	43	75	133	120	148	55
Average Queue (ft)	22	25	15	16	54	11	28	36	4	20	62	39	60	7
95th Queue (ft)	57	57	46	44	103	43	74	89	22	56	114	90	123	31
Link Distance (ft)		882		1216		1039	1039	1039			2422	2422	2422	
Upstream Blk Time (%)														

Queuing Penalty (veh)													
Storage Bay Dist (ft)	300		300		300				300	300			300
Storage Blk Time (%)													
Queuing Penalty (veh)													

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	84	76	163	132	91	184	159	77	99	120	210	204	73
Average Queue (ft)	25	25	65	60	29	83	57	34	32	57	86	102	21
95th Queue (ft)	65	58	127	108	68	148	117	68	75	96	165	168	55
Link Distance (ft)		429		638		834	834				757	757	757
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	300		300		300			400	450	450			
Storage Blk Time (%)													
Queuing Penalty (veh)													

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	90	84	141	71	97	88	103	60	98	133	201	66
Average Queue (ft)	33	30	51	22	36	25	41	16	38	51	93	18
95th Queue (ft)	73	65	102	53	77	65	87	44	80	104	171	48
Link Distance (ft)		1233		2054		952	952			1349	1349	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	154	71	98	113	103	252	255	64	144	145	152	83
Average Queue (ft)	55	16	35	53	38	116	98	17	66	57	69	29

95th Queue (ft)	114	45	75	97	80	205	191	46	120	119	127	67
Link Distance (ft)		672		1095		1003	1003			918	918	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)						0	0					
Queuing Penalty (veh)						0	0					

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	148	118	131	110	79	175	288	59	96	139	160	54
Average Queue (ft)	66	48	57	53	29	60	129	15	33	64	77	10
95th Queue (ft)	119	91	110	94	67	129	240	42	76	122	134	35
Link Distance (ft)		636		496		370	370			1357	1357	1357
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)	300		300		300			300	300			
Storage Blk Time (%)							0					
Queuing Penalty (veh)							0					

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	88	185	252	235	106	171	176
Average Queue (ft)	33	95	116	96	40	69	84
95th Queue (ft)	71	161	215	184	84	140	149
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Claribel Realigned (N)

Movement	EB	WB	NB	SB	SB

Directions Served	LTR	LTR	L	L	TR
Maximum Queue (ft)	62	66	30	23	6
Average Queue (ft)	21	23	1	1	0
95th Queue (ft)	52	54	14	11	6
Link Distance (ft)	662	702			1110
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			50	50	
Storage Blk Time (%)			0		0
Queuing Penalty (veh)			0		0

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	78	99	155	94	140	219	93	123	175
Average Queue (ft)	28	40	68	32	43	84	31	46	78
95th Queue (ft)	63	78	125	72	105	164	71	98	149
Link Distance (ft)		1110	417		1217	1217		1028	1028
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	T	T	R	L	L	T	T
Maximum Queue (ft)	121	206	182	289	77	111	125	194	188
Average Queue (ft)	48	86	69	159	21	35	61	67	85
95th Queue (ft)	98	154	132	261	59	84	104	152	159
Link Distance (ft)	437		1878	1878				1205	1205
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		300			300	890	890		
Storage Blk Time (%)				0					
Queuing Penalty (veh)				0					

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	77	96	74	167	46
Average Queue (ft)	25	47	28	84	3
95th Queue (ft)	61	82	60	142	21
Link Distance (ft)	838	838	795		801
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				300	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 56: NCC SPUI

Movement	NE	NE	NE	NE
Directions Served	R	R	R	>
Maximum Queue (ft)	34	60	63	35
Average Queue (ft)	2	6	10	2
95th Queue (ft)	18	31	40	16
Link Distance (ft)	1216	1216	1216	1216
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 57:

Movement	EB	NE
Directions Served	T	R
Maximum Queue (ft)	5	66
Average Queue (ft)	0	7
95th Queue (ft)	6	37
Link Distance (ft)	2177	551
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		

Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 58: NCC SPUI

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 62: NCC SPUI

Movement	B129
Directions Served	T
Maximum Queue (ft)	45
Average Queue (ft)	2
95th Queue (ft)	46
Link Distance (ft)	502
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 63: NCC

Movement	SW	SW	SW	B301
Directions Served	R	R	R	T
Maximum Queue (ft)	46	59	38	5
Average Queue (ft)	3	3	2	0
95th Queue (ft)	25	31	19	4
Link Distance (ft)	388	388	388	759

Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 81:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 84: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 90: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	477	206

Average Queue (ft)	16	4
95th Queue (ft)	159	77
Link Distance (ft)	586	586
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 96:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 109:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 117: NCC SPUI

Movement	B200
Directions Served	T
Maximum Queue (ft)	2
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	1332
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 118:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 122: NCC

Movement	B155	B155	B155
Directions Served	T	T	
Maximum Queue (ft)	238	222	53
Average Queue (ft)	12	11	2
95th Queue (ft)	100	88	32
Link Distance (ft)	1066	1066	1066
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 125: NCC SPUI & NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 127:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)

Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 154: Bend

Movement	EB	EB	EB
Directions Served	T	T	
Maximum Queue (ft)	156	99	47
Average Queue (ft)	7	5	2
95th Queue (ft)	81	52	32
Link Distance (ft)	1589	1589	1589
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 157: Crane Rd

Movement			
Directions Served			
Maximum Queue (ft)			
Average Queue (ft)			
95th Queue (ft)			
Link Distance (ft)			
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 186: Bend

Movement	EB	EB
Directions Served	T	
Maximum Queue (ft)	8	8
Average Queue (ft)	0	0
95th Queue (ft)	8	9

Link Distance (ft)	437	437
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 192: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 193: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 198:

Movement
Directions Served

Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary
Network wide Queuing Penalty: 1870

SimTraffic Performance Report
2042 Alternative 1A PM Peak Hour
9/3/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1	0.2	0.9	0	0	0	2.2	0.5	0.6	2.3	0.4	0.4	0.3
Total Del/Veh (s)	59.4	55.9	21.8	80.6	31.2	14	70.4	73.1	53.1	63.5	41.9	25.2	45.8
Vehicles Exited	53	1683	265	195	1762	102	165	109	184	150	93	21	4782
Hourly Exit Rate	53	1683	265	195	1762	102	165	109	184	150	93	21	4782
Input Volume	60	1670	270	200	1760	100	160	110	190	150	90	20	4779
% of Volume	88	101	98	98	100	102	103	99	97	100	104	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	57	59.6	32.9	66.3	18.2	4.6	67.1	41.7	8.7	63.3	148	77.4	45
Vehicles Exited	30	1603	359	580	1413	87	595	226	828	127	219	39	6106
Hourly Exit Rate	30	1603	359	580	1413	87	595	226	828	127	219	39	6106
Input Volume	30	1621	360	600	1422	90	600	220	820	130	210	40	6142
% of Volume	101	99	100	97	99	97	99	103	101	98	104	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.5	0.5	0.5	0	0	0.1	0	0	0	0.4	0.3	0.3	0.2
Total Del/Veh (s)	498	405	399	78.1	56	20.1	62.3	40.4	29.6	756	75.4	68.8	236
Vehicles Exited	225	195	35	22	368	100	81	515	19	286	587	303	2736
Hourly Exit Rate	225	195	35	22	368	100	81	515	19	286	587	303	2736
Input Volume	270	240	40	20	370	100	80	520	20	410	610	300	2981
% of Volume	83	81	88	109	99	100	101	99	94	70	96	101	92
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	19.9	4.9	8.9	1.1	12.6	9.5
Vehicles Exited	145	22	589	364	646	1766
Hourly Exit Rate	145	22	589	364	646	1766
Input Volume	140	20	600	360	670	1790
% of Volume	103	109	98	101	96	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.1	0	0.6	0.5	0	0.2
Total Del/Veh (s)	31	15.3	21.9	5.9	7.6	16.1
Vehicles Exited	486	18	148	486	364	1502
Hourly Exit Rate	486	18	148	486	364	1502
Input Volume	654	20	140	490	360	1665
% of Volume	74	89	106	99	101	90
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI Performance by movement

Movement	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	25	23.7	26.5	25.5	19.1	16.6	10.6	23	25.7	11.2	19.1
Vehicles Exited	211	343	329	242	192	689	881	129	559	237	3812
Hourly Exit Rate	211	343	329	242	192	689	881	129	559	237	3812
Input Volume	210	340	330	240	200	690	880	130	560	230	3810
% of Volume	101	101	100	101	96	100	100	99	100	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	369	368	369	32.6	29.5	28.6	17	16.2	16.6	2.1	0.6	0.7	126
Total Del/Veh (s)	694	735	709	853	68.2	16.4	538	475	436	96.7	60.9	64.7	389
Vehicles Exited	249	1267	286	296	942	280	324	1066	245	729	1354	307	7345
Hourly Exit Rate	249	1267	286	296	942	280	324	1066	245	729	1354	307	7345
Input Volume	390	1970	440	440	990	300	400	1290	290	730	1360	300	8900
% of Volume	64	64	65	67	95	93	81	83	84	100	100	102	83
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	106	524	119	32	70	21	14	36	10	0	0	0	932

8: NCC SPUI & Coffee Rd Performance by movement

Movement	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWT	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0		0	0
Total Del/Veh (s)	24	12.6	16	32.9	21.3	16.4	49.5	27.7	20.2		36.2	27.2
Vehicles Exited	276	261	469	48	218	270	697	374	376	0	61	3050
Hourly Exit Rate	276	261	469	48	218	270	697	374	376	0	61	3050
Input Volume	280	260	470	50	221	270	700	370	370	0	60	3052
% of Volume	99	100	100	96	99	100	100	101	102	0	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	14	11.9	13	1	0.1	0.1	2.5	0.1	0.2	2.9	0.2	2.9	6.5
Total Del/Veh (s)	133	126	64.1	87.1	36.8	19.8	58.5	56.5	43.8	64.9	40.2	26.3	79.2
Vehicles Exited	464	1822	550	203	1025	118	344	529	171	186	198	399	6009
Hourly Exit Rate	464	1822	550	203	1025	118	344	529	171	186	198	399	6009
Input Volume	480	1860	560	200	1030	120	340	530	170	180	200	400	6070
% of Volume	97	98	98	102	100	98	101	100	101	103	99	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	1	1
Denied Entry After	2	7	2	0	0	0	0	0	0	0	0	0	11

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.3	0.2	0.2	0.3	0.1	0.2	1.6	0.2	0.1	1.9	0.4	1.9	0.5
Total Del/Veh (s)	50.3	25.9	20.8	50.6	19.7	12.3	53.2	33.1	36.6	55.9	42.5	7.2	33.3

Vehicles Exited	112	682	155	352	336	53	193	106	204	55	78	70	2396
Hourly Exit Rate	112	682	155	352	336	53	193	106	204	55	78	70	2396
Input Volume	110	680	150	350	330	50	190	110	210	60	80	70	2390
% of Volume	102	100	104	101	102	106	101	96	97	92	97	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.4	0.2	0.5	0.3	3.4	0	0	0	0.3	0.1	0.1	0.3
Total Del/Veh (s)	29.9	45	11.4	35.7	46.7	3.8	46.6	24.1	11.9	50.7	35.4	32	27.6
Vehicles Exited	92	20	137	405	19	73	170	616	544	84	624	51	2835
Hourly Exit Rate	92	20	137	405	19	73	170	616	544	84	624	51	2835
Input Volume	90	20	140	400	20	70	170	620	560	80	620	50	2841
% of Volume	103	99	98	101	94	104	100	99	97	105	101	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.3	1.2	2.9	3.2	0.1	3.2	0.3	0.2	0.2	2.7	0.4	2.9	1.2
Total Del/Veh (s)	52.1	41.8	11.6	62.4	44.9	8.8	46.1	21.4	15.6	61.5	44.3	8.9	32.3
Vehicles Exited	354	790	1084	55	498	38	585	725	101	32	642	290	5194
Hourly Exit Rate	354	790	1084	55	498	38	585	725	101	32	642	290	5194
Input Volume	350	800	1080	60	500	40	590	710	100	30	640	290	5190
% of Volume	101	99	100	92	100	96	99	102	101	108	100	100	100
Denied Entry Before	0	0	2	0	0	0	0	0	0	0	0	0	2
Denied Entry After	0	0	1	0	0	0	0	0	0	0	0	0	1

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.3	0.3	0.3	3.6	0.8	1	2.4	1	2.4	0.9
Total Del/Veh (s)	72.6	35.5	27.6	68.6	45.1	16.4	82.5	105	99.5	62.2	56.4	22.6	58.5
Vehicles Exited	294	353	39	50	174	150	69	314	53	266	197	155	2114
Hourly Exit Rate	294	353	39	50	174	150	69	314	53	266	197	155	2114
Input Volume	290	360	40	50	170	150	70	310	50	270	200	150	2110

% of Volume	101	98	98	100	102	100	98	101	106	99	99	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.4	0.9	3.6	3.9	0.5	3.8	0	0	0	0	0	0	0.7
Total Del/Veh (s)	34.3	27.3	7.3	36.9	18.1	2.5	35.4	22.6	6.1	35	23.1	11.4	22.8
Vehicles Exited	17	177	201	79	62	22	232	475	84	40	406	28	1823
Hourly Exit Rate	17	177	201	79	62	22	232	475	84	40	406	28	1823
Input Volume	20	180	200	80	60	20	230	490	80	40	410	30	1840
% of Volume	84	98	101	98	103	109	101	97	105	101	99	94	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.4	3.9	0.3
Total Del/Veh (s)	7	4.1	13.9	3.2	12.3	4	6.2
Vehicles Exited	483	225	41	227	94	83	1153
Hourly Exit Rate	483	225	41	227	94	83	1153
Input Volume	490	220	40	220	100	80	1150
% of Volume	99	102	103	103	94	103	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	62.4	59.9	15.5	93.6	37.2	7.3	71.1	33	17.3	54.8	64.1	30.4	51
Vehicles Exited	348	1337	432	760	1310	104	577	282	462	48	389	354	6403
Hourly Exit Rate	348	1337	432	760	1310	104	577	282	462	48	389	354	6403
Input Volume	350	1350	430	760	1310	100	580	280	450	50	391	360	6412
% of Volume	99	99	101	100	100	104	99	101	103	96	99	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.9	0.6	0.5	0.2	0.2	0.3	2.1	0.2	0.2	0	0	0	0.5
Total Del/Veh (s)	20.8	12.8	5.7	25	21	9.5	23.3	11.5	4	13.4	14.2	8	14.2
Vehicles Exited	196	182	57	50	177	52	48	10	48	100	11	315	1246
Hourly Exit Rate	196	182	57	50	177	52	48	10	48	100	11	315	1246
Input Volume	200	180	50	50	180	50	50	10	50	100	10	320	1250
% of Volume	98	101	114	100	98	104	96	98	96	100	105	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	4	0.2	0.2	4.1	0.6
Total Del/Veh (s)	3.8	2.7	2.4	2.5	2.5	0.8	8.6	12.4	4.8	7.6	12	3.9	4.1
Vehicles Exited	21	269	30	42	142	45	29	40	45	40	28	22	753
Hourly Exit Rate	21	269	30	42	142	45	29	40	45	40	28	22	753
Input Volume	20	270	30	40	140	40	30	40	40	40	30	20	738
% of Volume	104	100	101	106	101	113	97	101	113	101	94	109	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.6	0.7	0.7	3.7	0.5	0.5	2.2	0.5	2	0.7
Total Del/Veh (s)	26.9	12	7	31.9	17.5	9.7	20.8	16.3	8	21.4	16.2	5.7	15.4
Vehicles Exited	104	527	54	43	561	83	110	59	83	97	58	109	1888
Hourly Exit Rate	104	527	54	43	561	83	110	59	83	97	58	109	1888
Input Volume	100	540	50	40	570	80	110	60	80	100	60	110	1899
% of Volume	104	98	109	108	98	104	100	98	104	97	97	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.5	0.5	0.5	0.4	0.2	0.2	1.6	0.8	1.6	0.2	0.2	0.2	0.4
Total Del/Veh (s)	73.4	33.6	25.4	54.3	63	19.1	48.2	51.2	10.3	59.3	53.7	48.2	46.5
Vehicles Exited	103	361	71	24	321	427	124	558	34	332	446	79	2880
Hourly Exit Rate	103	361	71	24	321	427	124	558	34	332	446	79	2880
Input Volume	110	350	70	20	320	420	120	550	30	340	440	80	2850
% of Volume	94	103	101	119	100	102	104	102	112	98	101	99	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.7	0.1	0.2	0.3	0.1	0.1	1.9	0.6	2	0.3	0.3	0.3	0.6
Total Del/Veh (s)	33.2	19.2	10.4	32.5	20.3	12.8	34.9	23.4	7.5	37.2	26.4	9.2	21
Vehicles Exited	123	255	168	124	385	64	146	169	180	60	138	130	1942
Hourly Exit Rate	123	255	168	124	385	64	146	169	180	60	138	130	1942
Input Volume	120	260	170	130	380	60	150	170	180	60	140	130	1950
% of Volume	103	98	99	96	101	107	97	99	100	100	99	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.3	3.8	0.7	3.7	3.3	1.9	3.4	0	0	0	1
Total Del/Veh (s)	45.7	38.2	9.6	41.1	36.5	9.4	44	46.1	36.6	48.8	25.3	20.3	34.9
Vehicles Exited	78	233	32	20	39	235	42	562	31	387	645	63	2367
Hourly Exit Rate	78	233	32	20	39	235	42	562	31	387	645	63	2367
Input Volume	80	230	30	20	40	230	40	560	30	390	641	60	2350
% of Volume	97	101	108	99	98	102	106	100	104	99	101	105	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.5	0.8	3.6	2.4	0.3	0.3	2.9	0.2	0.3	3.2	0.2	3.1	0.8
Total Del/Veh (s)	42.1	30.2	8	37.5	25.7	12.1	33.6	14.2	8.5	34.2	18.6	6	18.6

Vehicles Exited	19	159	173	37	98	30	101	664	50	28	579	22	1960
Hourly Exit Rate	19	159	173	37	98	30	101	664	50	28	579	22	1960
Input Volume	20	160	170	40	100	30	100	660	50	30	590	20	1969
% of Volume	94	100	102	93	98	101	101	101	100	94	98	109	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0		0	0	0	0	0	0	0	0
Total Del/Veh (s)	22.7	0.7	30.2	17.3		26.4	23.5	19.6	13.2	26	17.9	10.7	19
Vehicles Exited	666	1	156	292	0	202	20	464	400	141	593	430	3365
Hourly Exit Rate	666	1	156	292	0	202	20	464	400	141	593	430	3365
Input Volume	670	0	160	300	1	200	20	482	400	140	600	420	3393
% of Volume	99	200	98	97	0	101	99	96	100	101	99	102	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

25: NCC SPUI & Roselle Performance by movement

Movement	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NET	NER2	SWL	SWT	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0
Total Del/Veh (s)	18.3	13.5	7.4	25.3	18.5	6.9	23.4	0.2	18.6	23.5	0.2	22.2	16.6
Vehicles Exited	172	566	269	101	534	53	72	16	362	132	9	154	2440
Hourly Exit Rate	172	566	269	101	534	53	72	16	362	132	9	154	2440
Input Volume	170	580	270	100	541	50	70	13	360	130	8	150	2442
% of Volume	101	98	100	101	99	106	102	121	100	101	112	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

26: Crane Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.4	0.2	0.2	0
Total Del/Veh (s)	45.5	20.6	5.3	44.3	39.7	12	47	42.2	12.8	58.4	36.6	17.3	31.1
Vehicles Exited	790	998	51	235	1330	82	20	49	238	61	90	830	4774
Hourly Exit Rate	790	998	51	235	1330	82	20	49	238	61	90	830	4774
Input Volume	800	1000	50	240	1321	80	20	50	240	60	90	820	4772

% of Volume	99	100	102	98	101	102	99	98	99	102	100	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

27: Albers Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	3.2	2.1	3.2	1.1
Total Del/Veh (s)	48.4	29.6	7.5	43.5	50.8	11.7	58.6	39.1	20.3	58.9	34.9	19.9	34.5
Vehicles Exited	631	632	37	257	537	39	20	536	320	96	802	1082	4989
Hourly Exit Rate	631	632	37	257	537	39	20	536	320	96	802	1082	4989
Input Volume	630	630	40	260	531	40	20	531	320	100	790	1090	4982
% of Volume	100	100	93	99	101	98	99	101	100	96	102	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	1	1
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	1	1

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0
Total Del/Veh (s)	11.1	12.5	7.6	7.4	9.2	4.1	9.3	9.6	3.8	4	5.4	6	9.5
Vehicles Exited	430	566	48	47	391	20	48	11	53	18	10	394	2036
Hourly Exit Rate	430	566	48	47	391	20	48	11	53	18	10	394	2036
Input Volume	430	570	50	50	391	20	50	10	50	20	10	390	2042
% of Volume	100	99	96	94	100	99	96	107	106	89	98	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.2	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	14.4	16.1	2.5	8.6	8.1	3.4	4.8	7.8	9.1	6.4	7.1	3.5	10.1
Vehicles Exited	107	410	21	419	372	22	32	43	564	17	19	41	2067
Hourly Exit Rate	107	410	21	419	372	22	32	43	564	17	19	41	2067
Input Volume	110	410	20	420	370	20	30	40	570	20	20	40	2072
% of Volume	97	100	104	100	100	109	108	106	99	84	94	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.2	0.3	4	0.2	0.3	0	0	0	1.4	0.2	1.5	0.3
Total Del/Veh (s)	20	15.9	6.9	21.1	16.6	6.1	23.6	9.5	4.9	23.3	9.4	3.6	10.6
Vehicles Exited	59	11	130	51	9	50	100	989	53	50	742	29	2273
Hourly Exit Rate	59	11	130	51	9	50	100	989	53	50	742	29	2273
Input Volume	60	10	130	50	10	50	100	991	50	50	740	30	2271
% of Volume	98	107	100	102	88	100	100	100	106	100	100	97	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.4	0.5	3.6	1	1	2.4	0.6	2.3	0	0	0	0.8
Total Del/Veh (s)	66.8	56.3	18.3	43.9	57	37.4	53.6	30.7	7.5	54.1	13.5	1.9	28.9
Vehicles Exited	95	11	91	187	13	290	46	1373	199	292	871	72	3540
Hourly Exit Rate	95	11	91	187	13	290	46	1373	199	292	871	72	3540
Input Volume	100	10	90	190	10	290	50	1380	200	290	871	70	3552
% of Volume	95	107	101	98	127	100	92	99	100	101	100	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4	0.3	0.3	0.2	0.2	0.2	0	0	0	3.3	0.3	3.3	0.4
Total Del/Veh (s)	18.6	14.3	4.8	19.1	15	6.5	25.9	9.1	5.1	20.5	6.9	3.7	9.7
Vehicles Exited	48	11	52	98	11	50	52	864	101	48	385	52	1772
Hourly Exit Rate	48	11	52	98	11	50	52	864	101	48	385	52	1772
Input Volume	50	10	50	100	10	50	50	870	100	50	390	50	1780
% of Volume	96	107	104	98	107	100	104	99	101	96	99	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.5	0.4	3.9	0.4	0.3	2.8	0.4	2.8	0	0	0	0.6
Total Del/Veh (s)	23.6	16.5	7.4	19.8	19.5	9.5	24.6	11.5	4.7	23.6	8.9	3.9	11.5
Vehicles Exited	100	10	58	50	13	100	47	804	51	96	768	104	2201
Hourly Exit Rate	100	10	58	50	13	100	47	804	51	96	768	104	2201
Input Volume	100	10	50	50	10	100	50	810	50	100	762	100	2192
% of Volume	100	98	116	100	127	100	94	99	102	96	101	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.3	0.4	4	0.3	0.3	2.7	0.6	2.9	0	0	0	0.7
Total Del/Veh (s)	24.7	19.4	8	23.8	20.5	8.4	23.8	9.6	3.1	27.2	12.1	4.2	12.3
Vehicles Exited	68	9	69	65	11	58	112	756	106	98	834	113	2299
Hourly Exit Rate	68	9	69	65	11	58	112	756	106	98	834	113	2299
Input Volume	70	10	70	60	10	60	110	770	100	100	850	110	2320
% of Volume	97	88	98	108	107	97	102	98	106	98	98	103	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	2	0.3	0.4	0.3	0	0	0.3
Total Del/Veh (s)	25.8	9	12.5	7.2	26.2	6.3	10.8
Vehicles Exited	102	148	856	103	108	916	2233
Hourly Exit Rate	102	148	856	103	108	916	2233
Input Volume	100	150	870	100	110	921	2250
% of Volume	102	99	98	103	98	99	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Davis & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	3.9	0.2	0.3	0	0	0	0.2
Total Del/Veh (s)	6.8	8	3.1	6.8	7.3	3.3	2.6	0.4	0.4	3.3	1.4	1.2	1.6

Vehicles Exited	8	10	11	11	10	12	12	210	10	9	144	12	459
Hourly Exit Rate	8	10	11	11	10	12	12	210	10	9	144	12	459
Input Volume	10	10	10	10	10	10	10	210	10	10	150	10	462
% of Volume	78	98	107	107	98	117	117	100	98	88	96	117	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.5	0.5	0.5	0	0	0	3.3	0.2	0.3	0.2
Total Del/Veh (s)	15.7	11.3	5.3	18.4	20	14.7	33.6	18.9	15.1	37.9	18.2	11.5	18.2
Vehicles Exited	129	10	92	314	10	52	86	486	160	53	388	69	1849
Hourly Exit Rate	129	10	92	314	10	52	86	486	160	53	388	69	1849
Input Volume	130	10	90	310	10	50	90	480	160	50	400	70	1851
% of Volume	99	95	103	101	98	104	96	101	100	106	97	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.6	1.3	0	0	0.3
Total Del/Veh (s)	27.5	16.4	23.3	11.6	33.7	10.6	18.5
Vehicles Exited	152	212	1105	246	344	1240	3299
Hourly Exit Rate	152	212	1105	246	344	1240	3299
Input Volume	150	210	1100	250	350	1230	3290
% of Volume	102	101	100	98	98	101	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0		0	0.1	0.2	3.6	0.9	1.5
Total Del/Veh (s)	15.2		3.5	15.8	5.6	9.8	3.4	7.3
Vehicles Exited	63	0	397	26	48	375	31	940
Hourly Exit Rate	63	0	397	26	48	375	31	940
Input Volume	60	0	400	30	50	370	30	940

% of Volume	105	0	99	87	96	101	104	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

40: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.3	8.3
Vehicles Exited	753	753
Hourly Exit Rate	753	753
Input Volume	751	751
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	494	494
Hourly Exit Rate	494	494
Input Volume	500	500
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8	8
Vehicles Exited	836	836
Hourly Exit Rate	836	836
Input Volume	890	890
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	11.4	11.4
Vehicles Exited	1089	1089
Hourly Exit Rate	1089	1089
Input Volume	1080	1080
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	1598	1598
Hourly Exit Rate	1598	1598
Input Volume	1980	1980
% of Volume	81	81
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	273	273
Hourly Exit Rate	273	273
Input Volume	270	270
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	356	356
Hourly Exit Rate	356	356
Input Volume	350	350
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	430	430
Hourly Exit Rate	430	430
Input Volume	440	440
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.5	5.5
Vehicles Exited	652	652
Hourly Exit Rate	652	652
Input Volume	650	650
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8

Vehicles Exited	248	248
Hourly Exit Rate	248	248
Input Volume	240	240
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	155	155
Hourly Exit Rate	155	155
Input Volume	150	150
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.4	8.4
Vehicles Exited	1580	1580
Hourly Exit Rate	1580	1580
Input Volume	1690	1690
% of Volume	93	93
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.1	5.1
Vehicles Exited	695	695
Hourly Exit Rate	695	695
Input Volume	690	690

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	1780	1780
Hourly Exit Rate	1780	1780
Input Volume	1780	1780
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0	0.6	0.3
Total Del/Veh (s)	5.6	9.4	7.6
Vehicles Exited	1842	2186	4028
Hourly Exit Rate	1842	2186	4028
Input Volume	1850	2170	4020
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	302	302
Hourly Exit Rate	302	302
Input Volume	300	300
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

56: NCC SPUI Performance by movement

Movement	NET	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.6	1.4	1.5
Vehicles Exited	2015	552	2567
Hourly Exit Rate	2015	552	2567
Input Volume	2020	550	2570
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

57: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	3.6	3	3	3.4
Vehicles Exited	2014	1	1011	3026
Hourly Exit Rate	2014	1	1011	3026
Input Volume	2020	1	1010	3031
% of Volume	100	100	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

58: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.4	1.5	1.4
Vehicles Exited	1666	572	2238
Hourly Exit Rate	1666	572	2238
Input Volume	1680	570	2250
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	2120	2120
Hourly Exit Rate	2120	2120
Input Volume	2130	2130
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	876	876
Hourly Exit Rate	876	876
Input Volume	860	860
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.9	6.9
Vehicles Exited	847	847
Hourly Exit Rate	847	847
Input Volume	1010	1010
% of Volume	84	84
Denied Entry Before	0	0
Denied Entry After	0	0

62: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0.1	0
Total Del/Veh (s)	5.2	7.9	5.7

Vehicles Exited	1819	436	2255
Hourly Exit Rate	1819	436	2255
Input Volume	1826	430	2256
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

63: NCC Performance by movement

Movement	EBT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	12.6	0.4	7.2
Vehicles Exited	2571	2091	4662
Hourly Exit Rate	2571	2091	4662
Input Volume	2571	2110	4681
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7	7
Vehicles Exited	672	672
Hourly Exit Rate	672	672
Input Volume	680	680
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	780	780
Hourly Exit Rate	780	780
Input Volume	780	780

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	922	922
Hourly Exit Rate	922	922
Input Volume	930	930
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	266	266
Hourly Exit Rate	266	266
Input Volume	260	260
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	342	342
Hourly Exit Rate	342	342
Input Volume	340	340
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	266	266
Hourly Exit Rate	266	266
Input Volume	270	270
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	555	555
Hourly Exit Rate	555	555
Input Volume	559	559
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	1372	1372
Hourly Exit Rate	1372	1372
Input Volume	1380	1380
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

72: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	2.4		1.9	2.3
Vehicles Exited	1956	0	517	2473
Hourly Exit Rate	1956	0	517	2473
Input Volume	1960	0	520	2480
% of Volume	100	0	99	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.6	0	0.3
Total Del/Veh (s)	3.5	6.4	5
Vehicles Exited	682	779	1461
Hourly Exit Rate	682	779	1461
Input Volume	690	790	1479
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.4	0.2
Total Del/Veh (s)	4.2	0.5	2.4
Vehicles Exited	514	472	986
Hourly Exit Rate	514	472	986
Input Volume	530	480	1010
% of Volume	97	98	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

75: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.8	5.8

Vehicles Exited	2179	2179
Hourly Exit Rate	2179	2179
Input Volume	2160	2160
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.4	8.4
Vehicles Exited	1926	1926
Hourly Exit Rate	1926	1926
Input Volume	1940	1940
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

77: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	4.2	1.4	1.6	4
Vehicles Exited	1959	6	224	2189
Hourly Exit Rate	1959	6	224	2189
Input Volume	1970	6	220	2196
% of Volume	99	96	102	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	114	114
Hourly Exit Rate	114	114
Input Volume	110	110

% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	222	222
Hourly Exit Rate	222	222
Input Volume	220	220
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	237	237
Hourly Exit Rate	237	237
Input Volume	240	240
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	3.6	1.1	1.7	3.3
Vehicles Exited	1749	10	371	2130
Hourly Exit Rate	1749	10	371	2130
Input Volume	1760	10	370	2140
% of Volume	99	103	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	240	240
Hourly Exit Rate	240	240
Input Volume	240	240
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	709	709
Hourly Exit Rate	709	709
Input Volume	720	720
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0.1	0
Total Del/Veh (s)	2.8	4.3	3
Vehicles Exited	2026	286	2312
Hourly Exit Rate	2026	286	2312
Input Volume	2038	280	2318
% of Volume	99	102	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.6	0	0.4
Total Del/Veh (s)	0.9	1.1	1
Vehicles Exited	707	321	1028
Hourly Exit Rate	707	321	1028
Input Volume	710	320	1030
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	0.3	3.2	2.3
Vehicles Exited	268	567	835
Hourly Exit Rate	268	567	835
Input Volume	260	570	830
% of Volume	103	99	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	778	778
Hourly Exit Rate	778	778
Input Volume	790	790
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3

Vehicles Exited	791	791
Hourly Exit Rate	791	791
Input Volume	800	800
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	712	712
Hourly Exit Rate	712	712
Input Volume	710	710
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	1	0	0.6
Total Del/Veh (s)	3.4	7.9	5.4
Vehicles Exited	953	789	1742
Hourly Exit Rate	953	789	1742
Input Volume	960	810	1770
% of Volume	99	97	98
Denied Entry Before	0	0	0
Denied Entry After	1	0	1

91: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	193	193
Hourly Exit Rate	193	193
Input Volume	190	190

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

92: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	354	354
Hourly Exit Rate	354	354
Input Volume	349	349
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	759	759
Hourly Exit Rate	759	759
Input Volume	750	750
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	101	101
Hourly Exit Rate	101	101
Input Volume	99	99
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	106	106
Hourly Exit Rate	106	106
Input Volume	100	100
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

96: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	2239	2239
Hourly Exit Rate	2239	2239
Input Volume	2250	2250
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3
Vehicles Exited	330	330
Hourly Exit Rate	330	330
Input Volume	330	330
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	659	659
Hourly Exit Rate	659	659
Input Volume	660	660
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	322	322
Hourly Exit Rate	322	322
Input Volume	320	320
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

100: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.7	5.8	4.4
Vehicles Exited	1953	1071	3024
Hourly Exit Rate	1953	1071	3024
Input Volume	1960	1070	3030
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.1	1.7	2

Vehicles Exited	1663	430	2093
Hourly Exit Rate	1663	430	2093
Input Volume	1680	430	2111
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	790	790
Hourly Exit Rate	790	790
Input Volume	810	810
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

103: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	2245	2245
Hourly Exit Rate	2245	2245
Input Volume	2250	2250
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	1148	1148
Hourly Exit Rate	1148	1148
Input Volume	1150	1150

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	1112	1112
Hourly Exit Rate	1112	1112
Input Volume	1130	1130
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	1772	1772
Hourly Exit Rate	1772	1772
Input Volume	1770	1770
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	598	598
Hourly Exit Rate	598	598
Input Volume	590	590
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	579	579
Hourly Exit Rate	579	579
Input Volume	580	580
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

109: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	2.8	1.8
Vehicles Exited	1694	435	2129
Hourly Exit Rate	1694	435	2129
Input Volume	1700	430	2130
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.7	10.7
Vehicles Exited	2176	2176
Hourly Exit Rate	2176	2176
Input Volume	2210	2210
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	1119	1119
Hourly Exit Rate	1119	1119
Input Volume	1100	1100
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	397	397
Hourly Exit Rate	397	397
Input Volume	390	390
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

113: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	2185	2185
Hourly Exit Rate	2185	2185
Input Volume	2190	2190
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9

Vehicles Exited	648	648
Hourly Exit Rate	648	648
Input Volume	660	660
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	321	321
Hourly Exit Rate	321	321
Input Volume	320	320
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.1	6.1
Vehicles Exited	939	939
Hourly Exit Rate	939	939
Input Volume	950	950
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

117: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	668	668
Hourly Exit Rate	668	668
Input Volume	660	660

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

118: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.2	1.8	1.3
Vehicles Exited	1753	493	2246
Hourly Exit Rate	1753	493	2246
Input Volume	1756	500	2256
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	543	543
Hourly Exit Rate	543	543
Input Volume	530	530
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	522	522
Hourly Exit Rate	522	522
Input Volume	520	520
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

121: Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	2.3	1.7	1.7	2.2
Vehicles Exited	1685	1	448	2134
Hourly Exit Rate	1685	1	448	2134
Input Volume	1690	1	440	2130
% of Volume	100	133	102	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

122: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.3	7.3
Vehicles Exited	3025	3025
Hourly Exit Rate	3025	3025
Input Volume	3030	3030
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	144	144
Hourly Exit Rate	144	144
Input Volume	140	140
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

124: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	547	547
Hourly Exit Rate	547	547
Input Volume	550	550
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

125: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	223	223
Hourly Exit Rate	223	223
Input Volume	220	220
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	2471	2471
Hourly Exit Rate	2471	2471
Input Volume	2480	2480
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

127: NCC Performance by movement

Movement	WBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	5.7	1.5	2	3.9

Vehicles Exited	2245	62	2118	4425
Hourly Exit Rate	2245	62	2118	4425
Input Volume	2250	64	2130	4445
% of Volume	100	96	99	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

128: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	34	34
Hourly Exit Rate	34	34
Input Volume	31	31
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

129: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.7	3.7	3.1
Vehicles Exited	1652	820	2472
Hourly Exit Rate	1652	820	2472
Input Volume	1651	830	2480
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	2131	2131
Hourly Exit Rate	2131	2131
Input Volume	2130	2130

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	919	919
Hourly Exit Rate	919	919
Input Volume	930	930
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0.4	0	0.2
Total Del/Veh (s)	7.7	13.2	10.7
Vehicles Exited	1834	2181	4015
Hourly Exit Rate	1834	2181	4015
Input Volume	1850	2160	4010
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	2470	2470
Hourly Exit Rate	2470	2470
Input Volume	2480	2480
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

134: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	13.1	4.8	8.6
Vehicles Exited	1300	1641	2941
Hourly Exit Rate	1300	1641	2941
Input Volume	1300	1640	2940
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.4	8.4
Vehicles Exited	1935	1935
Hourly Exit Rate	1935	1935
Input Volume	2240	2240
% of Volume	86	86
Denied Entry Before	0	0
Denied Entry After	0	0

136: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.5	5.4	6.5
Vehicles Exited	1049	837	1886
Hourly Exit Rate	1049	837	1886
Input Volume	1050	830	1880
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

137: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.9	1.9	5.2
Vehicles Exited	1042	833	1875
Hourly Exit Rate	1042	833	1875
Input Volume	1050	830	1880
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

138: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	1200	1200
Hourly Exit Rate	1200	1200
Input Volume	1200	1200
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	725	725
Hourly Exit Rate	725	725
Input Volume	720	720
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

140: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6

Vehicles Exited	1105	1105
Hourly Exit Rate	1105	1105
Input Volume	1100	1100
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

141: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	94	94
Hourly Exit Rate	94	94
Input Volume	90	90
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

142: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	423	423
Hourly Exit Rate	423	423
Input Volume	430	430
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	447	447
Hourly Exit Rate	447	447
Input Volume	440	440

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.8	0.4
Total Del/Veh (s)	6	1.1	3.8
Vehicles Exited	991	812	1803
Hourly Exit Rate	991	812	1803
Input Volume	1000	811	1811
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	172	172
Hourly Exit Rate	172	172
Input Volume	170	170
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

146: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	991	991
Hourly Exit Rate	991	991
Input Volume	1000	1000
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

147: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.3	2.3	3.1
Vehicles Exited	1651	541	2192
Hourly Exit Rate	1651	541	2192
Input Volume	1650	540	2190
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

148: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	1015	1015
Hourly Exit Rate	1015	1015
Input Volume	1020	1020
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

149: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	567	567
Hourly Exit Rate	567	567
Input Volume	570	570
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	138	138
Hourly Exit Rate	138	138
Input Volume	140	140
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

151: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	2192	2192
Hourly Exit Rate	2192	2192
Input Volume	2190	2190
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

153: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	31	31
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	14.3	12	13

Vehicles Exited	1847	2183	4030
Hourly Exit Rate	1847	2183	4030
Input Volume	1850	2170	4020
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	166	166
Hourly Exit Rate	166	166
Input Volume	170	170
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

156: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	512	512
Hourly Exit Rate	512	512
Input Volume	530	530
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

157: Crane Rd Performance by movement

Movement	EBR	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0	0	0
Total Del/Veh (s)	4.1	3.2	1.6	2.5	2.3
Vehicles Exited	50	50	259	378	737
Hourly Exit Rate	50	50	259	378	737
Input Volume	50	50	260	381	741

% of Volume	100	100	100	99	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

160: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.7	13.5	7.8
Vehicles Exited	2118	2245	4363
Hourly Exit Rate	2118	2245	4363
Input Volume	2130	2250	4381
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

161: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.6	5.7	5.6
Vehicles Exited	1314	1578	2892
Hourly Exit Rate	1314	1578	2892
Input Volume	1310	1580	2890
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

163: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	969	969
Hourly Exit Rate	969	969
Input Volume	980	980
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

164: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	1158	1158
Hourly Exit Rate	1158	1158
Input Volume	1170	1170
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

165: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	949	949
Hourly Exit Rate	949	949
Input Volume	960	960
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	115	115
Hourly Exit Rate	115	115
Input Volume	110	110
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	164	164
Hourly Exit Rate	164	164
Input Volume	160	160
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	156	156
Hourly Exit Rate	156	156
Input Volume	160	160
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

172: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	542	542
Hourly Exit Rate	542	542
Input Volume	550	550
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9

Vehicles Exited	235	235
Hourly Exit Rate	235	235
Input Volume	230	230
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	286	286
Hourly Exit Rate	286	286
Input Volume	290	290
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	212	212
Hourly Exit Rate	212	212
Input Volume	210	210
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

177: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	591	591
Hourly Exit Rate	591	591
Input Volume	600	600

% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

178: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	106	106
Hourly Exit Rate	106	106
Input Volume	110	110
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

179: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.8	8.8
Vehicles Exited	2240	2240
Hourly Exit Rate	2240	2240
Input Volume	2990	2990
% of Volume	75	75
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	131	131
Hourly Exit Rate	131	131
Input Volume	130	130
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	501	501
Hourly Exit Rate	501	501
Input Volume	500	500
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	962	962
Hourly Exit Rate	962	962
Input Volume	970	970
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	212	212
Hourly Exit Rate	212	212
Input Volume	210	210
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

184: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	118	118
Hourly Exit Rate	118	118
Input Volume	110	110
% of Volume	107	107
Denied Entry Before	0	0
Denied Entry After	0	0

185: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	1386	1386
Hourly Exit Rate	1386	1386
Input Volume	1380	1380
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

186: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.3	0.1
Total Del/Veh (s)	3.2	0.1	2
Vehicles Exited	591	364	955
Hourly Exit Rate	591	364	955
Input Volume	600	360	960
% of Volume	98	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

187: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.8	6.8

Vehicles Exited	1845	1845
Hourly Exit Rate	1845	1845
Input Volume	1850	1850
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

188: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	8.3	10.7	9.7
Vehicles Exited	1294	1640	2934
Hourly Exit Rate	1294	1640	2934
Input Volume	1300	1640	2940
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

189: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	160	160
Hourly Exit Rate	160	160
Input Volume	160	160
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

190: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.9	0	0.3	1.5
Vehicles Exited	1696	1	547	2244
Hourly Exit Rate	1696	1	547	2244
Input Volume	1700	1	550	2250

% of Volume	100	133	99	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

191: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	547	547
Hourly Exit Rate	547	547
Input Volume	550	550
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	2185	2185
Hourly Exit Rate	2185	2185
Input Volume	2190	2190
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	1010	1010
Hourly Exit Rate	1010	1010
Input Volume	1010	1010
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

300: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	9.4	2.9	6.7
Vehicles Exited	1758	1232	2990
Hourly Exit Rate	1758	1232	2990
Input Volume	1770	1230	3000
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	2090	2090
Hourly Exit Rate	2090	2090
Input Volume	2110	2110
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

500: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.6	0	0.4
Total Del/Veh (s)	2.8	2.8	2.8
Vehicles Exited	1647	1154	2801
Hourly Exit Rate	1647	1154	2801
Input Volume	1640	1170	2810
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	17.7
Total Del/Veh (s)	114
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	22
Denied Entry Before	4
Denied Entry After	946

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Queuing ar PM Peak Hour
2042 Alterr 9/3/2014

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	365	647	692	713	470	369	426	476	432	94	380	552	282	257
Average Queue (ft)	69	384	401	408	167	198	223	255	266	32	172	238	134	83
95th Queue (ft)	228	634	664	692	441	366	371	407	402	71	337	449	249	188
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	530				410	580				530	330		300	
Storage Blk Time (%)		4		11	0				0		1	6	1	
Queuing Penalty (veh)		3		30	0				0		3	10	1	

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	L	T	T	TR
Maximum Queue (ft)	90	1150	1190	821	457	306	346	336	318	350	325	65	293	299	300	150	129	110	269	258	262	241
Average Queue (ft)	28	342	372	370	171	162	206	208	139	166	166	21	169	181	191	72	65	29	117	138	131	107
95th Queue (ft)	69	830	851	701	421	280	315	316	258	284	287	50	283	300	309	123	117	83	219	256	254	244
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923		3946	3946	3946

Upstream Blk Time (%)		0	0													
Queuing Penalty (veh)		0	0													
Storage Bay Dist (ft)	715				355	920	920	920			750	800				550
Storage Blk Time (%)		0		14												
Queuing Penalty (veh)		0		52												

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	310	3495	149	499	220	244	354	324	350	4459	4405
Average Queue (ft)	308	2092	34	321	115	91	187	174	349	2681	2356
95th Queue (ft)	319	3897	103	509	264	193	299	275	351	4564	4750
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)		0		3			0			0	
Queuing Penalty (veh)		0		15			0			0	
Storage Bay Dist (ft)	250		90		160	185			290		
Storage Blk Time (%)	82	4	1	53	0	1	9		86	3	
Queuing Penalty (veh)	230	11	3	64	0	2	7		261	11	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	142	215	276	221
Average Queue (ft)	70	103	104	75
95th Queue (ft)	124	182	225	176
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)			0	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	468	157	188	178

Average Queue (ft)	253	71	18	77
95th Queue (ft)	426	127	107	144
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	2			
Storage Bay Dist (ft)		530		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	B300	B300	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	T	T	L	T	T	T	>
Maximum Queue (ft)	121	150	313	171	180	236	215	170	177	168	229	218	41	62	174	198	192	164	155
Average Queue (ft)	53	67	165	90	92	128	86	88	98	81	114	117	2	3	71	109	104	60	68
95th Queue (ft)	102	111	263	147	149	208	167	142	156	142	192	185	33	40	140	175	170	129	125
Link Distance (ft)			1111			1079		737	737	737	737		757	757		1039	1039	1039	
Upstream Blk Time (%)																			
Queuing Penalty (veh)																			
Storage Bay Dist (ft)	300	300		300	300		700					300			550				650
Storage Blk Time (%)			0								0								
Queuing Penalty (veh)			1								0								

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	201	410	4982	4982	4982	410	330	360	3554	3552	3548	283	255	285	3903	3898	3889	260	559	610	860	846	738
Average Queue (ft)	106	379	4598	4598	4591	391	328	359	2542	2483	1448	94	216	277	2767	2741	2691	235	401	455	489	493	480
95th Queue (ft)	176	529	5825	5827	5821	508	335	361	4113	4118	3863	239	312	328	4446	4406	4324	334	587	662	858	806	733
Link Distance (ft)			4930	4930	4930				3510	3510	3510				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)			66	72	69				27	21	8				22	20	17						
Queuing Penalty (veh)			0	0	0				0	0	0				0	0	0						
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)		0	69		71	0	46	91	1		1		15	36	60		71	6	4	10	6		
Queuing Penalty (veh)		0	269		314	1	150	299	2		3		64	154	238		207	27	19	45	44		

Intersection: 8: NCC SPUI & Coffee Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	>	L	T	T	>	L	L	>	L	L	>
Maximum Queue (ft)	273	93	95	257	107	108	115	195	365	396	349	161	152	123
Average Queue (ft)	124	31	30	123	32	48	43	86	201	215	187	75	83	47
95th Queue (ft)	223	72	74	223	75	90	91	163	373	389	307	131	135	100
Link Distance (ft)		902	902			950	950			860	860			901
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	600			600	650			650	500			500	500	
Storage Blk Time (%)									0	1				
Queuing Penalty (veh)									1	3				

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	326	360	1390	1326	1231	360	353	411	399	310	257	347	489	472	292	227	554	359
Average Queue (ft)	203	295	1131	1035	891	261	201	245	236	186	141	196	261	255	161	101	109	219
95th Queue (ft)	302	431	1668	1606	1563	462	342	370	348	282	233	300	437	415	262	189	379	374
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)			17	4	8													
Queuing Penalty (veh)			0	0	0													
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)	1	4	56		44	1	6	1			0	0	5		0		0	8
Queuing Penalty (veh)	3	22	269		246	8	20	2			0	1	19		0		0	8

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	190	305	332	225	234	162	171	248	281	263	141	188	131
Average Queue (ft)	92	180	195	122	135	70	84	151	80	139	55	67	43
95th Queue (ft)	165	272	295	197	204	133	151	238	185	232	112	137	95
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								4	0		0	12	0
Queuing Penalty (veh)								4	0		1	15	0

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	153	72	142	254	289	86	241	242	256	226	250	379	409
Average Queue (ft)	60	18	57	109	166	15	131	129	146	114	75	175	227
95th Queue (ft)	121	54	108	206	253	49	216	216	231	189	172	325	366
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		
Storage Blk Time (%)				0	0						0	1	
Queuing Penalty (veh)				0	0						0	1	

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	R	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	237	268	364	349	107	130	255	236	175	62	332	351	300	298	100	401	350	171
Average Queue (ft)	128	167	244	211	5	55	177	143	56	19	202	226	169	167	32	257	208	69
95th Queue (ft)	215	242	341	315	75	110	244	221	148	48	302	321	256	261	79	361	317	132
Link Distance (ft)		1374	1374	1374			1274	1274	1274			2052	2052	2052		556	556	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300				300	300				300	500				300			300
Storage Blk Time (%)		0		0												4	0	
Queuing Penalty (veh)		0		4												1	1	

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	490	426	134	313	210	310	951	235	814	160
Average Queue (ft)	264	214	58	135	76	124	523	199	334	92
95th Queue (ft)	476	358	122	254	167	317	994	276	708	180
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)							1			
Queuing Penalty (veh)							0			

Storage Bay Dist (ft)	75		150	250		175		100
Storage Blk Time (%)	10	33	0	0	45	24	29	1
Queuing Penalty (veh)	32	67	0	0	31	83	123	3

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	65	211	144	142	86	47	304	381	282	86	221	191
Average Queue (ft)	18	100	64	58	29	8	138	166	50	30	106	93
95th Queue (ft)	51	177	110	117	68	29	240	299	173	69	180	166
Link Distance (ft)		1163			1019			1058	1058		414	414
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300	300		300	300			300		
Storage Blk Time (%)		0					0	1			0	
Queuing Penalty (veh)		0					0	2			0	

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	140	135	74	69	52	114	66
Average Queue (ft)	69	65	27	19	13	45	30
95th Queue (ft)	116	115	60	52	41	89	55
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		300	400				150
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	276	279	542	578	567	300	444	484	480	368	375	349	96	307	310	335	162	170	334	65	85	279	283	371
Average Queue (ft)	159	166	327	355	365	156	263	300	301	238	258	239	25	172	191	206	84	91	175	15	30	165	163	179
95th Queue (ft)	257	258	504	542	542	266	451	487	487	329	343	325	64	294	309	324	144	153	300	48	68	257	263	318

Link Distance (ft)			1066	1066	1066				1589	1589	1589	1589		726	726	726	726				1217	1217	
Upstream Blk Time (%)																							
Queuing Penalty (veh)																							
Storage Bay Dist (ft)	800	800				1000	970	970					850	720				840	520	520			720
Storage Blk Time (%)			0																				
Queuing Penalty (veh)			0																				

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	LT	R
Maximum Queue (ft)	175	148	94	192	100	90	145	194
Average Queue (ft)	87	54	37	84	35	28	52	84
95th Queue (ft)	146	118	77	152	78	67	108	152
Link Distance (ft)		2871		5344		1572	797	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	300		300		200			300
Storage Blk Time (%)						0		
Queuing Penalty (veh)						0		

Intersection: 18: Bentley & Claribel

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	44	57	96	64	85	59
Average Queue (ft)	4	9	39	29	37	18
95th Queue (ft)	21	34	73	58	68	51
Link Distance (ft)	2720	2487	1498		1216	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			10	5	10	2
Queuing Penalty (veh)			4	3	2	1

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R

Maximum Queue (ft)	124	175	186	88	254	201	136	142	116	107	85
Average Queue (ft)	56	72	84	33	134	92	57	55	49	31	37
95th Queue (ft)	103	138	154	69	213	168	102	104	94	73	68
Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)					0				1	1	0
Queuing Penalty (veh)					1				2	2	1

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	548	257	280	514	382	421	451	330	602	572
Average Queue (ft)	86	179	153	39	271	150	268	273	43	349	315
95th Queue (ft)	128	397	252	163	495	275	414	425	180	563	524
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	51	35	2		13			9	0		
Queuing Penalty (veh)	214	124	7		3			37	0		

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	164	173	194	172	188	216	94	141	225	110	133	173	152
Average Queue (ft)	72	68	79	71	80	96	33	65	87	65	47	78	56
95th Queue (ft)	134	125	146	136	147	176	74	113	167	118	99	142	115
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)				0	0				24	4	1	5	0
Queuing Penalty (veh)				0	0				81	12	3	10	1

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	182	328	108	77	101	137	107	405	333	430	344	313
Average Queue (ft)	66	146	24	20	32	67	36	198	189	247	121	136
95th Queue (ft)	132	268	90	57	77	115	80	336	309	395	263	257
Link Distance (ft)		5602			2237			1498			2124	2124
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	225		225	400		300	400		
Storage Blk Time (%)		3						1	2	2	0	
Queuing Penalty (veh)		3						5	5	6	0	

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	64	164	112	96	140	192	234	230	90	240	219	66
Average Queue (ft)	18	79	43	34	65	72	119	95	27	141	104	12
95th Queue (ft)	50	145	83	77	122	143	205	191	67	222	191	43
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)		0			0					0		
Queuing Penalty (veh)		0			0					0		

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	217	264	207	110	128	223	51	136	135	155	222	165	172	176	148	201
Average Queue (ft)	116	158	98	51	63	111	14	70	65	74	109	71	84	95	54	94
95th Queue (ft)	188	231	171	96	108	188	40	120	120	130	187	137	146	158	117	163
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	600				700	600				600
Storage Blk Time (%)																

Queuing Penalty (veh)

Intersection: 25: NCC SPUI & Roselle

Movement	NB	NB	NB	NB	SB	SB	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	>	L	T	T	>	L	L	>	L	L	>
Maximum Queue (ft)	167	254	203	124	137	209	183	42	78	47	284	84	88	175
Average Queue (ft)	66	102	49	41	53	84	78	4	27	9	153	26	42	84
95th Queue (ft)	129	206	136	96	112	162	155	22	62	30	240	63	75	144
Link Distance (ft)		671	671			1058	1058				1221			1160
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	400			400	550			550	500	500		500	500	
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 26: Crane Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L	T	R	L	T	R	R
Maximum Queue (ft)	421	427	234	272	253	55	323	368	383	413	102	70	107	190	154	168	260	270
Average Queue (ft)	256	261	122	147	125	13	171	240	255	272	39	19	38	76	61	63	137	153
95th Queue (ft)	403	404	197	231	212	39	272	351	369	391	81	51	87	146	125	134	222	240
Link Distance (ft)		1598	1598	1598	1598			1342	1342	1342			914			2754	2754	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	750					630	930				630	150		300	275			275
Storage Blk Time (%)													0	0			0	0
Queuing Penalty (veh)													0	0			0	0

Intersection: 27: Albers Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T	T	R	L	T	T	R	R
Maximum Queue (ft)	364	364	265	298	36	186	175	321	309	49	104	270	268	237	270	1663	1467	224	242
Average Queue (ft)	214	215	138	144	4	93	85	170	173	7	22	148	154	105	90	293	250	135	135
95th Queue (ft)	332	336	232	248	21	165	150	274	269	27	72	249	251	200	182	913	882	199	216
Link Distance (ft)		1588	1588	1588				4498	4498			2124	2124			2210	2210		
Upstream Blk Time (%)																0	0		

Queuing Penalty (veh)														0	0		
Storage Bay Dist (ft)	750			750	720	720		670	200			300	200			500	500
Storage Blk Time (%)										4	0	0	0	11			
Queuing Penalty (veh)										1	0	0	1	11			

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	TR	LT	TR	LT	TR
Maximum Queue (ft)	202	112	89	39	90	69	48	174
Average Queue (ft)	64	22	43	2	31	17	9	62
95th Queue (ft)	149	72	77	19	74	53	35	129
Link Distance (ft)	2814	2814	3932	3932	283	283	838	838
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	TR	LT	R	LTR
Maximum Queue (ft)	185	153	188	90	75	171	76
Average Queue (ft)	96	16	68	4	22	45	25
95th Queue (ft)	161	91	134	39	57	120	63
Link Distance (ft)	2212	2212	1153	1153	3932	3932	267
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	115	131	96	80	137	132	164	173	60	97	169	134	134	57
Average Queue (ft)	39	47	35	26	61	47	64	77	14	37	79	43	55	12

95th Queue (ft)	82	92	76	60	111	103	125	140	45	80	139	97	113	40
Link Distance (ft)		882		1203		1039	1039	1039			2422	2422	2422	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	300		300		300				300	300				300
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	225	173	316	363	231	642	574	249	222	235	264	261	68
Average Queue (ft)	92	54	143	184	51	369	318	67	119	131	139	143	20
95th Queue (ft)	199	120	271	350	170	588	535	212	196	203	229	230	51
Link Distance (ft)		429		638		834	834				757	757	757
Upstream Blk Time (%)				0		0	0						
Queuing Penalty (veh)				0		0	0						
Storage Bay Dist (ft)	300		300		300			400	450	450			
Storage Blk Time (%)	1		1	3	0	15	2						
Queuing Penalty (veh)	1		2	7	0	7	5						

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	88	86	127	70	109	187	172	76	90	96	150	65
Average Queue (ft)	31	28	49	24	38	76	86	27	33	36	54	17
95th Queue (ft)	67	62	97	58	88	152	156	61	73	77	116	50
Link Distance (ft)		1243		2059		950	950			1333	1333	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB

Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	144	89	92	116	87	171	206	42	124	129	145	46
Average Queue (ft)	59	31	28	51	26	76	92	4	43	48	60	6
95th Queue (ft)	114	67	70	95	63	145	175	21	97	101	119	27
Link Distance (ft)		755		1093		1259	1259			902	902	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	112	98	109	100	156	160	278	76	138	188	193	81
Average Queue (ft)	45	38	46	40	67	55	123	24	58	81	92	24
95th Queue (ft)	90	76	92	79	122	120	225	55	112	153	161	60
Link Distance (ft)		636		496		370	370			1357	1357	1357
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)	300		300		300			300	300			
Storage Blk Time (%)							0					
Queuing Penalty (veh)							0					

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	155	139	269	245	145	154	156
Average Queue (ft)	63	60	134	116	68	52	68
95th Queue (ft)	121	110	231	207	126	125	126
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Davis & Claribel Realigned (N)

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	68	70	31	6	24
Average Queue (ft)	24	25	2	0	1
95th Queue (ft)	57	58	17	5	12
Link Distance (ft)	662	702		778	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			50		50
Storage Blk Time (%)			0	0	
Queuing Penalty (veh)			0	0	

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	142	95	302	148	217	244	128	174	235
Average Queue (ft)	62	40	155	62	103	132	45	68	104
95th Queue (ft)	117	77	258	117	191	221	96	125	192
Link Distance (ft)		1110	417		1217	1217		1028	1028
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	NB	SB	SB	SB	SB	B161
Directions Served	L	R	T	T	R	L	L	T	T	T
Maximum Queue (ft)	200	196	470	672	419	204	202	209	226	172
Average Queue (ft)	94	87	182	316	108	108	116	101	106	6
95th Queue (ft)	170	159	349	549	305	172	178	188	192	113
Link Distance (ft)	437		1878	1878				1205	1205	726
Upstream Blk Time (%)										0
Queuing Penalty (veh)										0
Storage Bay Dist (ft)		300			300	890	890			

Storage Blk Time (%)	0	0	9
Queuing Penalty (veh)	0	0	23

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	97	108	81	197	34
Average Queue (ft)	36	54	32	101	4
95th Queue (ft)	77	91	67	170	20
Link Distance (ft)	838	838	795		801
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				300	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 56: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 57:

Movement	B299	B299
Directions Served	T	
Maximum Queue (ft)	246	189
Average Queue (ft)	57	29
95th Queue (ft)	185	114
Link Distance (ft)	377	377

Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 58:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 62: NCC SPUI

Movement	B151
Directions Served	T
Maximum Queue (ft)	27
Average Queue (ft)	1
95th Queue (ft)	28
Link Distance (ft)	502
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 63: NCC

Movement	EB	EB	EB
Directions Served	T	T	T
Maximum Queue (ft)	516	1260	1000

Average Queue (ft)	18	53	27
95th Queue (ft)	377	650	449
Link Distance (ft)	2590	2590	2590
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 72:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 77:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 81:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 84: NCC SPUI

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 90: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	377
Average Queue (ft)	26
95th Queue (ft)	197
Link Distance (ft)	586
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 100: NCC SPUI

Movement	B122	B122
Directions Served	T	T
Maximum Queue (ft)	7	5
Average Queue (ft)	0	0
95th Queue (ft)	6	5
Link Distance (ft)	1426	1426
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 101:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 109:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)

Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 118: NCC SPUI

Movement	SW
Directions Served	T
Maximum Queue (ft)	2
Average Queue (ft)	0
95th Queue (ft)	3
Link Distance (ft)	521
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 121:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 127: NCC

Movement	B160	B160	B160	B59
Directions Served	T	T		T
Maximum Queue (ft)	307	258	121	69
Average Queue (ft)	29	31	7	2
95th Queue (ft)	170	169	65	70

Link Distance (ft)	1066	1066	1066	671
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 129: NCC SPUI & NCC

Movement	B126
Directions Served	T
Maximum Queue (ft)	4
Average Queue (ft)	0
95th Queue (ft)	4
Link Distance (ft)	642
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 132: Bend

Movement	SW
Directions Served	T
Maximum Queue (ft)	160
Average Queue (ft)	6
95th Queue (ft)	116
Link Distance (ft)	1598
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 147:

Movement
Directions Served

Maximum Queue (ft)			
Average Queue (ft)			
95th Queue (ft)			
Link Distance (ft)			
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 154: Bend

Movement	EB	EB	EB
Directions Served	T	T	
Maximum Queue (ft)	119	97	23
Average Queue (ft)	5	6	1
95th Queue (ft)	67	66	14
Link Distance (ft)	1589	1589	1589
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 157: Crane Rd

Movement	EB	WB
Directions Served	R	R
Maximum Queue (ft)	73	68
Average Queue (ft)	26	25
95th Queue (ft)	55	55
Link Distance (ft)	117	124
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 186: Bend

Movement	EB	EB
Directions Served	T	
Maximum Queue (ft)	103	31
Average Queue (ft)	7	1
95th Queue (ft)	56	17
Link Distance (ft)	437	437
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 190:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary
Network wide Queuing Penalty: 4100

SimTraffic Performance Report
2042 Alternative 1B AM Peak Hour
9/3/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.1	0.2	1	0	0	0	2.4	0.6	0.5	2.4	0.3	0.3	0.3
Total Del/Veh (s)	59.8	40.9	13.8	70	38.5	16.8	49.1	29.3	14.9	48.2	48.6	32.8	40.8
Vehicles Exited	73	1202	142	240	1702	71	209	77	43	29	144	62	3994
Hourly Exit Rate	73	1202	142	240	1702	71	209	77	43	29	144	62	3994
Input Volume	70	1190	140	240	1700	70	220	80	40	30	140	60	3981
% of Volume	104	101	101	100	100	101	95	96	108	97	103	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	63.9	34.1	28.9	37.8	22.6	5.1	33.6	27.1	2.5	39.3	32.5	19	28
Vehicles Exited	54	813	419	664	1786	47	172	85	175	39	103	65	4422
Hourly Exit Rate	54	813	419	664	1786	47	172	85	175	39	103	65	4422
Input Volume	50	790	420	660	1781	50	170	90	170	40	110	60	4390
% of Volume	108	103	100	101	100	94	101	95	103	98	94	108	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.4	0.4	0	0.1	0	0	0	0	0.3	0.2	0.2	0.2
Total Del/Veh (s)	63.3	27.3	15.9	111	83	50.7	61.6	38.1	29.8	63.5	44.5	39.5	51.7
Vehicles Exited	199	185	72	16	502	139	37	444	21	80	542	224	2461
Hourly Exit Rate	199	185	72	16	502	139	37	444	21	80	542	224	2461
Input Volume	200	180	70	20	550	150	40	450	20	80	540	220	2520
% of Volume	100	103	102	79	91	93	93	99	104	100	100	102	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	19.3	6	10.6	0.2	14.2	13.1
Vehicles Exited	271	19	482	80	632	1484
Hourly Exit Rate	271	19	482	80	632	1484
Input Volume	300	20	490	80	634	1524
% of Volume	90	94	98	100	100	97
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	9.7	9.5	0	7.1
Total Del/Veh (s)	10.9	4.5	167	227	4.1	157
Vehicles Exited	268	21	269	661	79	1298
Hourly Exit Rate	268	21	269	661	79	1298
Input Volume	264	20	300	720	80	1384
% of Volume	102	104	90	92	98	94
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	3	8	0	11

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0		0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	16.9		21.6	21.5	0.4	20.8	23.4	14.1	4.8	17.1	15.4	10	16.2
Vehicles Exited	40	0	143	336	1	256	130	416	143	50	526	299	2340
Hourly Exit Rate	40	0	143	336	1	256	130	416	143	50	526	299	2340
Input Volume	40	0	140	330	0	250	130	410	140	50	531	300	2322
% of Volume	101	0	102	102	400	102	100	101	102	100	99	100	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.2	1	0.7	0.9	0.3	0.1	0.2	2.6	0.1	0.2	0.5
Total Del/Veh (s)	183	42.1	11.6	189	198	152	72.2	35.2	16.6	57.4	33.9	22.6	102
Vehicles Exited	313	904	242	389	1522	413	309	918	283	166	674	184	6317
Hourly Exit Rate	313	904	242	389	1522	413	309	918	283	166	674	184	6317
Input Volume	320	910	240	410	1590	440	310	920	290	160	670	180	6440
% of Volume	98	99	101	95	96	94	100	100	98	104	101	102	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	1	0	0	0	0	0	0	0	1

8: Coffee Rd Performance by movement

Movement	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NET	NER2	SWL	SWT	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	31.8	8.4	7.3	33.2	20.3	45.4	25.9	0.1	14.6	32.2	0.3	30	26.3
Vehicles Exited	449	197	360	28	295	441	90	5	69	362	12	49	2357
Hourly Exit Rate	449	197	360	28	295	441	90	5	69	362	12	49	2357
Input Volume	440	191	350	30	290	430	90	4	70	370	12	50	2327
% of Volume	102	103	103	94	102	103	100	125	98	98	96	98	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.3	0.1	2.3	0.9	0.1	0.1	2.6	0.1	0.2	2.7	0.2	2.7	0.8
Total Del/Veh (s)	70.9	29.3	9.7	52.1	47	28.6	51.3	26.7	16.8	47.4	41.4	38.3	39.7
Vehicles Exited	226	777	263	159	1532	112	441	452	143	61	426	435	5027
Hourly Exit Rate	226	777	263	159	1532	112	441	452	143	61	426	435	5027
Input Volume	230	780	250	160	1530	110	440	450	150	60	430	430	5019
% of Volume	98	100	105	100	100	102	100	100	95	102	99	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.6	0.1	0.1	0.3	0.2	0.1	1.7	0.2	0.1	1.6	0.4	1.7	0.5
Total Del/Veh (s)	46.4	14.4	4.9	47.2	16.2	12.8	41.9	28.5	30.4	42.6	34.1	8.7	24.4

Vehicles Exited	47	241	42	172	593	56	149	64	104	69	72	119	1728
Hourly Exit Rate	47	241	42	172	593	56	149	64	104	69	72	119	1728
Input Volume	50	240	40	170	590	50	140	60	100	70	70	120	1701
% of Volume	94	100	106	101	100	112	106	107	104	98	102	99	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.3	0.2	0.4	0.2	3.2	0	0	0	0.3	0.1	0.1	0.4
Total Del/Veh (s)	29.5	40.8	10.4	32.1	42.4	3.8	42.9	23.1	6.8	41.5	26.2	21.6	24.7
Vehicles Exited	85	39	91	445	20	68	52	281	237	72	516	50	1956
Hourly Exit Rate	85	39	91	445	20	68	52	281	237	72	516	50	1956
Input Volume	90	40	90	450	20	70	50	281	240	70	530	50	1981
% of Volume	95	98	101	99	99	97	104	100	99	102	97	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.2	2.7	3.3	0.1	3.3	0.4	0.1	0.1	3	0.8	3.2	1
Total Del/Veh (s)	54.4	31.3	3.2	57.6	58.1	6.3	49.1	15.8	6.3	54.9	57	23.5	40.1
Vehicles Exited	391	269	306	28	467	34	853	350	38	29	581	484	3830
Hourly Exit Rate	391	269	306	28	467	34	853	350	38	29	581	484	3830
Input Volume	390	270	300	30	470	30	850	360	40	30	580	490	3840
% of Volume	100	100	102	94	99	114	100	97	96	97	100	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	1	1
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.4	0.4	0.4	3.6	0.5	0.5	2.1	0.9	2.1	0.9
Total Del/Veh (s)	42.9	26.6	16	61.3	40.5	17.6	30.9	42.7	31	39.4	40.9	13.6	33.1
Vehicles Exited	132	164	42	40	244	223	70	257	49	160	200	198	1779
Hourly Exit Rate	132	164	42	40	244	223	70	257	49	160	200	198	1779
Input Volume	130	160	40	40	240	220	70	250	50	160	200	190	1750

% of Volume	101	103	106	101	102	101	100	103	98	100	100	104	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.8	3.7	3.9	0.4	3.9	0	0	0	0	0	0	0.9
Total Del/Veh (s)	26.9	17.4	6.4	27.7	18.7	3.1	28.1	15.4	3.8	28.1	15.7	8.5	15.7
Vehicles Exited	37	48	219	26	79	52	144	352	20	19	414	19	1429
Hourly Exit Rate	37	48	219	26	79	52	144	352	20	19	414	19	1429
Input Volume	40	50	210	30	80	50	140	360	20	20	420	20	1441
% of Volume	93	96	104	87	98	104	103	98	99	94	99	94	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.2	3.8	0.2
Total Del/Veh (s)	7.3	3.5	12	3.5	11.4	3.4	6
Vehicles Exited	181	141	106	405	113	41	987
Hourly Exit Rate	181	141	106	405	113	41	987
Input Volume	180	140	110	400	110	40	980
% of Volume	101	101	96	101	103	103	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	40	42.8	8.5	38.5	27.1	6.5	60.7	38.5	15.2	56.3	68.4	25.2	35.2
Vehicles Exited	313	1342	328	420	1158	59	352	203	410	59	230	391	5265
Hourly Exit Rate	313	1342	328	420	1158	59	352	203	410	59	230	391	5265
Input Volume	310	1340	330	430	1170	60	350	200	420	60	232	390	5292
% of Volume	101	100	99	98	99	98	101	102	98	98	99	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2	0.5	0.6	0.3	0.3	0.3	2.1	0.2	0.2	0	0	0	0.8
Total Del/Veh (s)	15.5	8.2	3.2	21.7	16.8	8.2	15.4	12.3	3.8	13.6	13.5	3.2	12.9
Vehicles Exited	220	76	52	57	175	76	47	9	52	56	11	21	852
Hourly Exit Rate	220	76	52	57	175	76	47	9	52	56	11	21	852
Input Volume	220	80	50	50	170	80	50	10	50	60	10	20	851
% of Volume	100	95	104	114	103	95	94	88	104	93	107	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	4.1	0.2	0.2	4.1	0.6
Total Del/Veh (s)	4.1	1.8	1.2	2.3	2.6	1	7.4	10.8	3.4	7.6	11	4	3.4
Vehicles Exited	17	132	31	28	293	52	30	18	32	19	42	28	722
Hourly Exit Rate	17	132	31	28	293	52	30	18	32	19	42	28	722
Input Volume	20	130	30	30	300	50	30	20	30	20	40	30	730
% of Volume	84	101	104	94	98	104	101	89	108	94	106	94	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.4	0.5	0.5	3.7	0.4	0.5	2	0.6	2	0.8
Total Del/Veh (s)	26.4	13.1	8.4	28.9	15.9	8.2	18.6	14.5	7.6	20	14.5	5.4	14.7
Vehicles Exited	81	469	62	58	399	83	109	69	42	137	80	153	1742
Hourly Exit Rate	81	469	62	58	399	83	109	69	42	137	80	153	1742
Input Volume	80	470	60	60	390	80	110	70	40	130	80	150	1721
% of Volume	101	100	103	97	102	103	99	98	106	105	100	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.6	0.6	0.7	12.9	12.2	12.8	2	0.7	1.9	0.2	0.2	0.2	3.9
Total Del/Veh (s)	83.7	43.2	36.2	636	336	70.3	42.7	43.2	9	51.7	46.3	40.9	111
Vehicles Exited	113	402	93	103	262	290	108	338	81	322	456	89	2657
Hourly Exit Rate	113	402	93	103	262	290	108	338	81	322	456	89	2657
Input Volume	120	400	90	130	310	320	110	330	80	320	460	90	2760
% of Volume	94	100	104	79	84	91	98	103	101	101	99	99	96
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	3	9	7	0	0	0	0	0	0	19

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.6	0.1	0.2	0.3	0.1	0.1	2	0.8	2	0.3	0.3	0.3	0.6
Total Del/Veh (s)	36	23.2	15	37.1	18.1	11	40.3	23.2	6.9	37.8	29.9	10.9	24.3
Vehicles Exited	70	365	165	165	406	52	278	115	101	49	161	140	2067
Hourly Exit Rate	70	365	165	165	406	52	278	115	101	49	161	140	2067
Input Volume	70	370	160	170	410	50	280	120	100	50	160	140	2080
% of Volume	100	99	103	97	99	104	99	96	101	98	101	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	3.4	0.9	3.6	3.1	1.7	3.3	0	0	0	1.2
Total Del/Veh (s)	36.5	31.4	6.4	37.8	31.1	11.2	40.3	26.1	14.4	44.2	23.9	19.5	24.9
Vehicles Exited	49	51	37	32	118	264	50	696	22	109	660	84	2172
Hourly Exit Rate	49	51	37	32	118	264	50	696	22	109	660	84	2172
Input Volume	50	50	40	30	120	270	50	700	20	110	650	80	2170
% of Volume	98	102	93	108	98	98	100	99	109	99	101	105	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.4	3.9	2.5	0.4	0.4	2.9	0.2	0.3	3	0.2	3	0.7
Total Del/Veh (s)	36.4	26.2	6.4	37.5	29	17.5	36.2	15	8.5	36.2	20	7.9	20.1

Vehicles Exited	20	77	81	40	226	31	108	694	39	28	630	44	2018
Hourly Exit Rate	20	77	81	40	226	31	108	694	39	28	630	44	2018
Input Volume	20	80	80	40	230	30	110	680	40	30	650	40	2030
% of Volume	99	96	101	101	98	104	98	102	98	94	97	111	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	19.7	0.2	23.7	21.2	23.2	27.1	10.9	10.6	26.1	10	10.5	13.6
Vehicles Exited	93	2	40	245	70	80	409	462	90	433	532	2456
Hourly Exit Rate	93	2	40	245	70	80	409	462	90	433	532	2456
Input Volume	90	1	40	250	70	80	410	460	100	441	530	2472
% of Volume	104	200	101	98	100	100	100	100	90	98	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

25: NCC SPUI & Roselle Performance by movement

Movement	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	22.6	13.5	8.6	27.1	17.9	9.3	16.9	17.3	22.3	20.5	16.9
Vehicles Exited	254	423	361	118	485	58	21	148	258	70	2196
Hourly Exit Rate	254	423	361	118	485	58	21	148	258	70	2196
Input Volume	260	430	360	120	481	60	20	140	260	70	2202
% of Volume	98	98	100	98	101	97	104	106	99	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0

26: Crane Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.4	0.2	0.2	0.1
Total Del/Veh (s)	28.8	11	2.3	39.6	21.9	5.5	33.5	29.7	10.3	36.2	31.2	12.7	17.4
Vehicles Exited	577	1236	19	50	711	30	37	60	150	59	48	910	3887
Hourly Exit Rate	577	1236	19	50	711	30	37	60	150	59	48	910	3887
Input Volume	570	1230	20	50	721	30	40	61	150	60	50	900	3881

% of Volume	101	101	94	100	99	101	93	99	100	98	96	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

27: Albers Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	41.6	20	6	43.4	46.6	21.4	64.7	56.3	16.5	51.9	31.5	5.9	35
Vehicles Exited	988	301	162	245	305	41	18	748	244	20	444	468	3984
Hourly Exit Rate	988	301	162	245	305	41	18	748	244	20	444	468	3984
Input Volume	980	301	160	240	310	40	20	761	240	20	440	470	3983
% of Volume	101	100	101	102	98	103	89	98	102	99	101	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

28: STERNS & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	16.1	6.2	1.8	22.5	16.2	4.9	12.5	14.4	3.5	12.9	14.4	5.3	11.3
Vehicles Exited	187	357	19	20	392	22	31	19	21	19	19	164	1270
Hourly Exit Rate	187	357	19	20	392	22	31	19	21	19	19	164	1270
Input Volume	180	360	20	20	400	20	30	20	20	20	20	160	1272
% of Volume	104	99	94	99	98	109	104	94	104	94	94	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.3	0.3	0	0	0	0	0	0.1
Total Del/Veh (s)	10.2	6	6.8	11	1.3	0.5	4.4	7.1
Vehicles Exited	179	80	358	201	37	1	354	1210
Hourly Exit Rate	179	80	358	201	37	1	354	1210
Input Volume	180	80	360	200	40	1	360	1221
% of Volume	99	100	99	101	93	100	98	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.2	4	0.3	0.2	0	0	0	1.4	0.2	1.5	0.2
Total Del/Veh (s)	18.9	15.5	5.2	18.9	18.9	5	18.8	5.8	3.7	21.4	7.2	3.7	7.9
Vehicles Exited	30	10	40	19	9	21	99	590	20	22	818	23	1701
Hourly Exit Rate	30	10	40	19	9	21	99	590	20	22	818	23	1701
Input Volume	30	10	40	20	10	20	100	581	20	20	820	20	1692
% of Volume	101	98	101	94	88	104	99	102	99	109	100	114	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.2	3.6	0.4	0.6	3.1	0.3	3.2	0	0	0	0.6
Total Del/Veh (s)	26.7	28.4	6.9	22.1	21.6	7.8	27	12.1	3.8	22.8	9	1.8	11.7
Vehicles Exited	31	9	33	120	10	195	41	461	98	146	800	60	2004
Hourly Exit Rate	31	9	33	120	10	195	41	461	98	146	800	60	2004
Input Volume	30	10	30	120	10	190	40	460	100	140	800	60	1990
% of Volume	104	88	111	100	98	102	103	100	98	104	100	100	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	2.8	0.2	0.3	0.2	0.1	0.2	0	0	0	3	0.3	0.4
Total Del/Veh (s)	15.4	13	6.1	17.2	14.4	3.7	19.3	7.5	3.6	19.7	8.6	9.7
Vehicles Exited	49	10	49	99	10	52	46	233	57	50	614	1269
Hourly Exit Rate	49	10	49	99	10	52	46	233	57	50	614	1269
Input Volume	50	10	50	100	10	50	50	230	50	50	600	1250
% of Volume	98	98	98	99	98	104	92	101	114	100	102	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.5	0.4	3.9	0.3	0.3	2.7	0.4	2.7	0	0	0	0.6
Total Del/Veh (s)	23.5	17.5	5.5	19.3	17.4	9	25.9	13.4	5.1	23.3	9.4	4.6	12.8
Vehicles Exited	101	9	51	47	10	103	46	799	50	102	527	96	1941
Hourly Exit Rate	101	9	51	47	10	103	46	799	50	102	527	96	1941
Input Volume	100	10	50	50	10	100	50	780	50	100	532	100	1931
% of Volume	101	88	102	94	98	103	92	102	100	102	99	96	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.5	0.5	3.8	0.5	0.5	2.9	0.5	3	0	0	0	0.8
Total Del/Veh (s)	21.2	14.6	6.6	18.8	15.8	8.3	24.6	10.6	2.7	25.5	9.7	3.4	11.4
Vehicles Exited	117	12	116	100	10	103	37	726	47	49	628	40	1985
Hourly Exit Rate	117	12	116	100	10	103	37	726	47	49	628	40	1985
Input Volume	120	10	120	100	10	100	40	730	50	50	640	40	2010
% of Volume	98	117	97	100	98	103	93	99	94	98	98	101	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	2	0.4	0.3	0.4	0	0	0.2
Total Del/Veh (s)	18.9	10.5	11	6.5	25.3	7.6	9.9
Vehicles Exited	46	278	760	56	50	841	2031
Hourly Exit Rate	46	278	760	56	50	841	2031
Input Volume	50	280	770	50	50	830	2030
% of Volume	92	99	99	112	100	101	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Davis & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	4.1	0.2	0.1	0.1	0	0	0.2
Total Del/Veh (s)	6.3	6.9	3.1	5	6.8	3.1	2.2	0.3	0.2	2.4	1	0.9	1.6

Vehicles Exited	8	9	10	9	11	10	9	109	13	9	80	12	289
Hourly Exit Rate	8	9	10	9	11	10	9	109	13	9	80	12	289
Input Volume	10	10	10	10	10	10	10	110	10	10	80	10	293
% of Volume	78	88	98	88	107	98	88	99	127	88	100	117	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.2	0.2	0.2	0	0	0	3.2	0.2	0.3	0.2
Total Del/Veh (s)	16.4	13.8	5.6	16.4	15.4	8.5	24.9	11.5	10.7	20.6	9	5	11.1
Vehicles Exited	38	10	79	124	9	24	37	305	230	39	474	55	1424
Hourly Exit Rate	38	10	79	124	9	24	37	305	230	39	474	55	1424
Input Volume	40	10	80	120	10	20	40	301	230	40	480	50	1422
% of Volume	96	95	98	103	88	119	93	101	100	98	99	110	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.3	1.2	0	0	0.1
Total Del/Veh (s)	17.2	10.6	13.5	4.9	23.5	8.7	11.7
Vehicles Exited	95	257	701	48	123	854	2078
Hourly Exit Rate	95	257	701	48	123	854	2078
Input Volume	100	260	710	50	130	860	2110
% of Volume	95	99	99	96	94	99	98
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: STERNS Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	3.6	0.2	0.2	0.2
Total Del/Veh (s)	7.3	8.3	3.7	7.2	8.5	3.9	3.6	1.8	1.4	2.9	0.6	0.3	2.3
Vehicles Exited	21	10	22	19	9	21	20	186	22	20	161	21	532
Hourly Exit Rate	21	10	22	19	9	21	20	186	22	20	161	21	532
Input Volume	20	10	20	20	10	20	20	180	20	20	160	20	522

% of Volume	104	98	109	94	88	104	99	103	109	99	101	104	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0
Total Del/Veh (s)	3.6	9.2	5.2	2.9	6.8	2.9	4.4	5.3	3	4.3	4.7	3	7.1
Vehicles Exited	21	354	19	17	398	23	17	10	21	18	11	21	930
Hourly Exit Rate	21	354	19	17	398	23	17	10	21	18	11	21	930
Input Volume	20	360	20	20	401	20	20	10	20	20	10	20	944
% of Volume	104	98	94	84	99	114	84	98	104	89	107	104	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	515	515
Hourly Exit Rate	515	515
Input Volume	520	520
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	780	780
Hourly Exit Rate	780	780
Input Volume	800	800
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10	10
Vehicles Exited	745	745
Hourly Exit Rate	745	745
Input Volume	770	770
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	1644	1644
Hourly Exit Rate	1644	1644
Input Volume	1680	1680
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	166	166
Hourly Exit Rate	166	166
Input Volume	160	160
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	236	236
Hourly Exit Rate	236	236
Input Volume	240	240
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	492	492
Hourly Exit Rate	492	492
Input Volume	490	490
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	181	181
Hourly Exit Rate	181	181
Input Volume	180	180
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6

Vehicles Exited	234	234
Hourly Exit Rate	234	234
Input Volume	231	231
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	200	200
Hourly Exit Rate	200	200
Input Volume	200	200
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.8	10.8
Vehicles Exited	2004	2004
Hourly Exit Rate	2004	2004
Input Volume	2080	2080
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3
Vehicles Exited	725	725
Hourly Exit Rate	725	725
Input Volume	720	720

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	915	915
Hourly Exit Rate	915	915
Input Volume	910	910
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0	0.3	0.2
Total Del/Veh (s)	4	5.4	4.7
Vehicles Exited	1811	1640	3451
Hourly Exit Rate	1811	1640	3451
Input Volume	1820	1660	3480
% of Volume	100	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	2648	2648
Hourly Exit Rate	2648	2648
Input Volume	2640	2640
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

56: Performance by movement

Movement	NET	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	0.7	0.8
Vehicles Exited	841	184	1025
Hourly Exit Rate	841	184	1025
Input Volume	820	180	1000
% of Volume	102	102	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

57: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.7	0.3	1.4
Vehicles Exited	843	193	1036
Hourly Exit Rate	843	193	1036
Input Volume	820	190	1010
% of Volume	103	101	103
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

58: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	1.4	1.5
Vehicles Exited	2138	591	2729
Hourly Exit Rate	2138	591	2729
Input Volume	2138	580	2719
% of Volume	100	102	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1032	1032
Hourly Exit Rate	1032	1032
Input Volume	1010	1010
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	623	623
Hourly Exit Rate	623	623
Input Volume	630	630
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	346	346
Hourly Exit Rate	346	346
Input Volume	340	340
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

62: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6

Vehicles Exited	87	87
Hourly Exit Rate	87	87
Input Volume	90	90
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

63: Performance by movement

Movement	EBT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.4	0.5	2.5
Vehicles Exited	1021	2486	3507
Hourly Exit Rate	1021	2486	3507
Input Volume	1000	2490	3490
% of Volume	102	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	374	374
Hourly Exit Rate	374	374
Input Volume	370	370
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

65: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3	4.9	3.2
Vehicles Exited	1505	168	1673
Hourly Exit Rate	1505	168	1673
Input Volume	1501	160	1661

% of Volume	100	105	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	336	336
Hourly Exit Rate	336	336
Input Volume	339	339
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	247	247
Hourly Exit Rate	247	247
Input Volume	250	250
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	185	185
Hourly Exit Rate	185	185
Input Volume	190	190
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	220	220
Hourly Exit Rate	220	220
Input Volume	221	221
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	526	526
Hourly Exit Rate	526	526
Input Volume	521	521
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	1804	1804
Hourly Exit Rate	1804	1804
Input Volume	1810	1810
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

72: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	437	437
Hourly Exit Rate	437	437
Input Volume	440	440
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.5	0	0.2
Total Del/Veh (s)	3.2	4.7	3.9
Vehicles Exited	611	663	1274
Hourly Exit Rate	611	663	1274
Input Volume	610	650	1260
% of Volume	100	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	1986	1986
Hourly Exit Rate	1986	1986
Input Volume	1980	1980
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

75: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.3	4.3

Vehicles Exited	1657	1657
Hourly Exit Rate	1657	1657
Input Volume	1659	1659
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.6	8.6
Vehicles Exited	1978	1978
Hourly Exit Rate	1978	1978
Input Volume	1980	1980
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

77: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.4	0.2
Total Del/Veh (s)	3.4	0.4	1.9
Vehicles Exited	439	452	891
Hourly Exit Rate	439	452	891
Input Volume	450	461	911
% of Volume	98	98	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	52	52
Hourly Exit Rate	52	52
Input Volume	51	51

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	377	377
Hourly Exit Rate	377	377
Input Volume	380	380
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	144	144
Hourly Exit Rate	144	144
Input Volume	150	150
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	3.2	0.6	2.1	2.9
Vehicles Exited	1506	1	480	1987
Hourly Exit Rate	1506	1	480	1987
Input Volume	1500	0	480	1981
% of Volume	100	400	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	121	121
Hourly Exit Rate	121	121
Input Volume	120	120
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	648	648
Hourly Exit Rate	648	648
Input Volume	640	640
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.6	4.5	2.9
Vehicles Exited	1567	330	1897
Hourly Exit Rate	1567	330	1897
Input Volume	1580	330	1910
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.3	0	0.1
Total Del/Veh (s)	0.4	1.6	1.1
Vehicles Exited	322	519	841
Hourly Exit Rate	322	519	841
Input Volume	320	510	830
% of Volume	101	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.4	0	0.3
Total Del/Veh (s)	0.6	2.3	1.1
Vehicles Exited	510	223	733
Hourly Exit Rate	510	223	733
Input Volume	510	220	730
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	663	663
Hourly Exit Rate	663	663
Input Volume	650	650
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7

Vehicles Exited	752	752
Hourly Exit Rate	752	752
Input Volume	770	770
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	743	743
Hourly Exit Rate	743	743
Input Volume	730	730
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.5	0	0.2
Total Del/Veh (s)	2.1	7.5	5.4
Vehicles Exited	562	898	1460
Hourly Exit Rate	562	898	1460
Input Volume	570	930	1500
% of Volume	99	97	97
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	352	352
Hourly Exit Rate	352	352
Input Volume	360	360

% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

92: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	183	183
Hourly Exit Rate	183	183
Input Volume	180	180
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	612	612
Hourly Exit Rate	612	612
Input Volume	600	600
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	101	101
Hourly Exit Rate	101	101
Input Volume	99	99
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	88	88
Hourly Exit Rate	88	88
Input Volume	90	90
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

96: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.4	7.4
Vehicles Exited	1345	1345
Hourly Exit Rate	1345	1345
Input Volume	1360	1360
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	184	184
Hourly Exit Rate	184	184
Input Volume	190	190
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	824	824
Hourly Exit Rate	824	824
Input Volume	830	830
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

99: Performance by movement

Movement	WBT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.9	2.3	2.8
Vehicles Exited	1568	312	1880
Hourly Exit Rate	1568	312	1880
Input Volume	1580	320	1900
% of Volume	99	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

100: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.7	4.9	2.8
Vehicles Exited	1448	792	2240
Hourly Exit Rate	1448	792	2240
Input Volume	1440	801	2240
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.5	1.8	2.4

Vehicles Exited	2057	430	2487
Hourly Exit Rate	2057	430	2487
Input Volume	2060	430	2490
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	899	899
Hourly Exit Rate	899	899
Input Volume	930	930
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

103: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	242	242
Hourly Exit Rate	242	242
Input Volume	241	241
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	955	955
Hourly Exit Rate	955	955
Input Volume	950	950

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	792	792
Hourly Exit Rate	792	792
Input Volume	790	790
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.8	5.8
Vehicles Exited	2404	2404
Hourly Exit Rate	2404	2404
Input Volume	2400	2400
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	858	858
Hourly Exit Rate	858	858
Input Volume	850	850
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	285	285
Hourly Exit Rate	285	285
Input Volume	280	280
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

109: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	1900	1900
Hourly Exit Rate	1900	1900
Input Volume	1910	1910
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.2	7.2
Vehicles Exited	978	978
Hourly Exit Rate	978	978
Input Volume	990	990
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	774	774
Hourly Exit Rate	774	774
Input Volume	780	780
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	509	509
Hourly Exit Rate	509	509
Input Volume	501	501
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

113: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	1882	1882
Hourly Exit Rate	1882	1882
Input Volume	1900	1900
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9

Vehicles Exited	348	348
Hourly Exit Rate	348	348
Input Volume	350	350
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	520	520
Hourly Exit Rate	520	520
Input Volume	510	510
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	416	416
Hourly Exit Rate	416	416
Input Volume	410	410
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

117: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	365	365
Hourly Exit Rate	365	365
Input Volume	360	360

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

118: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	1.2	0.8
Vehicles Exited	1566	316	1882
Hourly Exit Rate	1566	316	1882
Input Volume	1580	320	1900
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	650	650
Hourly Exit Rate	650	650
Input Volume	680	680
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	460	460
Hourly Exit Rate	460	460
Input Volume	510	510
% of Volume	90	90
Denied Entry Before	0	0
Denied Entry After	0	0

121: Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	2.3	1.8	2	2.2
Vehicles Exited	1567	1	610	2178
Hourly Exit Rate	1567	1	610	2178
Input Volume	1580	1	610	2190
% of Volume	99	100	100	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

122: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	279	279
Hourly Exit Rate	279	279
Input Volume	280	280
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.5	5.5
Vehicles Exited	252	252
Hourly Exit Rate	252	252
Input Volume	250	250
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

124: NCC Performance by movement

Movement	WBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	7.1	0.6	1.8	4.4
Vehicles Exited	1902	1	1986	3889
Hourly Exit Rate	1902	1	1986	3889
Input Volume	1910	1	1980	3890
% of Volume	100	133	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

125: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	33	33
Hourly Exit Rate	33	33
Input Volume	31	31
% of Volume	107	107
Denied Entry Before	0	0
Denied Entry After	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	1255	1255
Hourly Exit Rate	1255	1255
Input Volume	1230	1230
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

127: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.2	1	2.1

Vehicles Exited	1159	135	1294
Hourly Exit Rate	1159	135	1294
Input Volume	1137	130	1267
% of Volume	102	104	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

129: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.2	2.2	2.2
Vehicles Exited	1123	550	1673
Hourly Exit Rate	1123	550	1673
Input Volume	1100	560	1660
% of Volume	102	98	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	2177	2177
Hourly Exit Rate	2177	2177
Input Volume	2190	2190
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	667	667
Hourly Exit Rate	667	667
Input Volume	660	660

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0.4	0	0.2
Total Del/Veh (s)	9.2	6.3	7.9
Vehicles Exited	1831	1657	3488
Hourly Exit Rate	1831	1657	3488
Input Volume	1820	1659	3479
% of Volume	101	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	9.6	0.6	6.4
Vehicles Exited	1446	793	2239
Hourly Exit Rate	1446	793	2239
Input Volume	1440	801	2240
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

134: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.1	3.7	2.7
Vehicles Exited	1448	792	2240
Hourly Exit Rate	1448	792	2240
Input Volume	1440	801	2240
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.2	6.2
Vehicles Exited	1312	1312
Hourly Exit Rate	1312	1312
Input Volume	1320	1320
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

136: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	116	116
Hourly Exit Rate	116	116
Input Volume	110	110
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

137: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.6	0.8	2.1
Vehicles Exited	395	435	830
Hourly Exit Rate	395	435	830
Input Volume	401	440	841
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

138: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	886	886
Hourly Exit Rate	886	886
Input Volume	880	880
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	803	803
Hourly Exit Rate	803	803
Input Volume	800	800
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	238	238
Hourly Exit Rate	238	238
Input Volume	240	240
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.5	0.3
Total Del/Veh (s)	3.3	2.5	2.9

Vehicles Exited	531	558	1089
Hourly Exit Rate	531	558	1089
Input Volume	540	560	1100
% of Volume	98	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.1	1.5	2.7
Vehicles Exited	394	433	827
Hourly Exit Rate	394	433	827
Input Volume	401	440	841
% of Volume	98	98	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

146: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	531	531
Hourly Exit Rate	531	531
Input Volume	540	540
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

147: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	1771	1771
Hourly Exit Rate	1771	1771
Input Volume	1780	1780

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

148: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	1671	1671
Hourly Exit Rate	1671	1671
Input Volume	1660	1660
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

149: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	1185	1185
Hourly Exit Rate	1185	1185
Input Volume	1190	1190
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	132	132
Hourly Exit Rate	132	132
Input Volume	130	130
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

152: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	31	31
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

153: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	99	99
Hourly Exit Rate	99	99
Input Volume	101	101
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	15.6	6.4	11.2
Vehicles Exited	1813	1638	3451
Hourly Exit Rate	1813	1638	3451
Input Volume	1820	1660	3480
% of Volume	100	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	440	440
Hourly Exit Rate	440	440
Input Volume	450	450
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

156: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.7	9.8	5.7
Vehicles Exited	1985	1900	3885
Hourly Exit Rate	1985	1900	3885
Input Volume	1980	1910	3890
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

157: Crane Rd Performance by movement

Movement	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0
Total Del/Veh (s)	1.6	1.3	1.9	1.8	1.6
Vehicles Exited	248	59	88	30	425
Hourly Exit Rate	248	59	88	30	425
Input Volume	251	60	91	30	432
% of Volume	99	98	97	101	98
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

158: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1

Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	30	30
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

159: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	59	59
Hourly Exit Rate	59	59
Input Volume	60	60
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

163: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	844	844
Hourly Exit Rate	844	844
Input Volume	860	860
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

164: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.3	0.1
Total Del/Veh (s)	11.2	0.8	7.6
Vehicles Exited	1771	931	2702
Hourly Exit Rate	1771	931	2702
Input Volume	1780	930	2710

% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

165: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	846	846
Hourly Exit Rate	846	846
Input Volume	840	840
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	56	56
Hourly Exit Rate	56	56
Input Volume	60	60
% of Volume	93	93
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	152	152
Hourly Exit Rate	152	152
Input Volume	160	160
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	160	160
Hourly Exit Rate	160	160
Input Volume	160	160
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

172: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3
Vehicles Exited	243	243
Hourly Exit Rate	243	243
Input Volume	240	240
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	87	87
Hourly Exit Rate	87	87
Input Volume	90	90
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	281	281
Hourly Exit Rate	281	281
Input Volume	279	279
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	106	106
Hourly Exit Rate	106	106
Input Volume	100	100
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

177: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	170	170
Hourly Exit Rate	170	170
Input Volume	180	180
% of Volume	94	94
Denied Entry Before	0	0
Denied Entry After	0	0

178: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.6	3	3.8

Vehicles Exited	394	433	827
Hourly Exit Rate	394	433	827
Input Volume	401	440	841
% of Volume	98	98	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

179: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	222	222
Hourly Exit Rate	222	222
Input Volume	220	220
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	110	110
Hourly Exit Rate	110	110
Input Volume	110	110
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	252	252
Hourly Exit Rate	252	252
Input Volume	250	250

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	334	334
Hourly Exit Rate	334	334
Input Volume	330	330
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	108	108
Hourly Exit Rate	108	108
Input Volume	110	110
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

184: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	121	121
Hourly Exit Rate	121	121
Input Volume	110	110
% of Volume	110	110
Denied Entry Before	0	0
Denied Entry After	0	0

185: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	949	949
Hourly Exit Rate	949	949
Input Volume	960	960
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

186: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.3	0.2
Total Del/Veh (s)	1.3	0.1	0.5
Vehicles Exited	170	352	522
Hourly Exit Rate	170	352	522
Input Volume	180	360	540
% of Volume	94	98	97
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

187: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.8	6.8
Vehicles Exited	1813	1813
Hourly Exit Rate	1813	1813
Input Volume	1820	1820
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

188: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.4	1.1	5.2
Vehicles Exited	1446	792	2238
Hourly Exit Rate	1446	792	2238
Input Volume	1440	801	2240
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

189: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.6	5.3	4
Vehicles Exited	395	436	831
Hourly Exit Rate	395	436	831
Input Volume	401	440	841
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

190: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.6	0.8	1.2
Vehicles Exited	391	438	829
Hourly Exit Rate	391	438	829
Input Volume	401	440	841
% of Volume	98	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

191: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.5	4.3	3.9

Vehicles Exited	395	436	831
Hourly Exit Rate	395	436	831
Input Volume	401	440	841
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

192: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	228	228
Hourly Exit Rate	228	228
Input Volume	220	220
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

193: Bend Performance by approach

Approach	SB	NW	All
Denied Del/Veh (s)	0	0.1	0.1
Total Del/Veh (s)	1.3	0.1	0.6
Vehicles Exited	59	71	130
Hourly Exit Rate	59	71	130
Input Volume	61	70	131
% of Volume	97	101	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

194: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.9	4.9	4.9
Vehicles Exited	564	586	1150
Hourly Exit Rate	564	586	1150
Input Volume	561	590	1150

% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

195: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	59	59
Hourly Exit Rate	59	59
Input Volume	61	61
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

196: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	50	50
Hourly Exit Rate	50	50
Input Volume	51	51
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

197: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.7	9.7
Vehicles Exited	768	768
Hourly Exit Rate	768	768
Input Volume	810	810
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

198: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	51	51
Hourly Exit Rate	51	51
Input Volume	51	51
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

199: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	641	641
Hourly Exit Rate	641	641
Input Volume	630	630
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	1883	1883
Hourly Exit Rate	1883	1883
Input Volume	1900	1900
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

201: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	54	54
Hourly Exit Rate	54	54
Input Volume	51	51
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

202: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	46	46
Hourly Exit Rate	46	46
Input Volume	51	51
% of Volume	91	91
Denied Entry Before	0	0
Denied Entry After	0	0

203: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.4	1.3	1.3	1.3
Vehicles Exited	869	15	386	1270
Hourly Exit Rate	869	15	386	1270
Input Volume	850	12	380	1242
% of Volume	102	125	102	102
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

208: Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.2	1.1	1.1

Vehicles Exited	900	160	1060
Hourly Exit Rate	900	160	1060
Input Volume	880	160	1039
% of Volume	102	100	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

209: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.6	3	1.8
Vehicles Exited	1832	409	2241
Hourly Exit Rate	1832	409	2241
Input Volume	1836	420	2256
% of Volume	100	97	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

211: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	889	889
Hourly Exit Rate	889	889
Input Volume	870	870
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

212: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	1256	1256
Hourly Exit Rate	1256	1256
Input Volume	1230	1230

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

214: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	2	0.2	0.4	1.5
Vehicles Exited	1762	28	887	2677
Hourly Exit Rate	1762	28	887	2677
Input Volume	1770	26	870	2666
% of Volume	100	110	102	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

215: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	890	890
Hourly Exit Rate	890	890
Input Volume	870	870
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	193	193
Hourly Exit Rate	193	193
Input Volume	190	190
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

300: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.6	2.6	2.6
Vehicles Exited	687	1005	1692
Hourly Exit Rate	687	1005	1692
Input Volume	680	1000	1680
% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	2486	2486
Hourly Exit Rate	2486	2486
Input Volume	2490	2490
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

500: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.1	0	0
Total Del/Veh (s)	0.6	2.1	1.7
Vehicles Exited	431	1189	1620
Hourly Exit Rate	431	1189	1620
Input Volume	430	1190	1620
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

501: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4	3.8	3.9
Vehicles Exited	957	975	1932
Hourly Exit Rate	957	975	1932
Input Volume	970	990	1960
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	1
Total Del/Veh (s)	65.2
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	22
Denied Entry Before	1
Denied Entry After	31

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Queuing ar AM Peak Hour
2042 Alterr 9/3/2014

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	177	363	410	438	232	430	487	510	498	76	303	180	121	319
Average Queue (ft)	74	217	244	270	61	220	239	268	275	25	159	60	30	143
95th Queue (ft)	150	326	371	399	155	391	423	452	449	62	264	134	82	261
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														

Storage Bay Dist (ft)	530				410	580				530	330		300									
Storage Blk Time (%)				1		0	0		0		0			0								
Queuing Penalty (veh)				1		0	0		0		0			0								

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	L	T	T	TR
Maximum Queue (ft)	146	237	481	958	296	220	269	266	398	423	429	59	94	97	107	80	72	38	97	86	90	114
Average Queue (ft)	53	114	138	168	145	124	174	174	180	201	207	15	36	43	46	31	19	3	32	35	28	35
95th Queue (ft)	113	219	398	591	270	194	247	247	339	358	362	43	74	81	90	66	52	20	76	67	66	83
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923		3946	3946	3946
Upstream Blk Time (%)			0	0																		
Queuing Penalty (veh)			0	0																		
Storage Bay Dist (ft)	715				355	920	920	920				750	800						550			
Storage Blk Time (%)																						
Queuing Penalty (veh)																						

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	297	315	149	507	220	183	301	292	266	393	450
Average Queue (ft)	177	126	30	496	146	45	156	149	91	230	275
95th Queue (ft)	281	253	100	519	289	114	256	246	213	363	405
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				45							
Queuing Penalty (veh)				324							
Storage Bay Dist (ft)	250		90		160	185			290		
Storage Blk Time (%)	4	0	1	64	0		5		0	3	
Queuing Penalty (veh)	9	1	4	109	1		2		0	3	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	214	225	305	292
Average Queue (ft)	115	106	120	96
95th Queue (ft)	190	187	245	218

Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	221	590	3320	63
Average Queue (ft)	87	493	2057	19
95th Queue (ft)	171	816	3873	48
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)			10	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)		530		
Storage Blk Time (%)		0	49	
Queuing Penalty (veh)		0	148	

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	L	T	T	T	>
Maximum Queue (ft)	49	66	174	153	166	231	175	138	132	112	76	87	95	166	188	129	196
Average Queue (ft)	7	19	86	75	90	121	67	60	59	41	25	20	26	75	86	37	77
95th Queue (ft)	29	52	154	124	145	199	136	113	107	90	60	60	67	135	155	99	146
Link Distance (ft)			1111			1079		737	737	737	737			1038	1038	1038	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300	300		300	300		700					300	550				650
Storage Blk Time (%)						0											
Queuing Penalty (veh)						0											

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR

Maximum Queue (ft)	365	383	548	416	329	170	275	360	2130	2108	2098	410	252	279	350	335	356	260	192	226	339	299	280
Average Queue (ft)	251	267	291	211	198	70	170	334	1368	1359	1350	381	151	170	191	207	179	119	69	117	206	185	157
95th Queue (ft)	413	437	651	339	290	130	265	446	2582	2544	2516	511	246	269	298	297	289	238	160	192	298	269	251
Link Distance (ft)			4930	4930	4930				3395	3395	3395				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)									1	1	1												
Queuing Penalty (veh)									0	0	0												
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)	8	20	0		0		0	1	54		53	3	1	3	2		5	1					
Queuing Penalty (veh)	25	59	0		0		1	4	219		232	16	2	11	6		13	3					

Intersection: 8: Coffee Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	>	L	T	T	>	L	L	>	L	L	>
Maximum Queue (ft)	390	78	67	150	92	143	269	569	62	82	110	186	185	101
Average Queue (ft)	218	18	14	49	22	65	71	265	10	28	35	89	105	37
95th Queue (ft)	361	53	44	114	60	117	205	508	38	66	85	161	170	81
Link Distance (ft)		902	902			952	952			860	860			901
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	600			600	650			650	500			500	500	
Storage Blk Time (%)							0	1						
Queuing Penalty (veh)							0	2						

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	194	228	308	274	186	152	359	556	533	508	286	309	268	257	115	349	453	352
Average Queue (ft)	93	138	203	164	66	56	155	337	338	288	164	204	134	137	55	178	175	213
95th Queue (ft)	193	214	284	249	159	113	317	536	522	476	263	285	227	225	105	272	396	357
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)			0				0	12			0	0	0			0	0	8
Queuing Penalty (veh)			1				0	20			0	1	0			0	0	16

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	109	124	135	126	137	214	242	223	164	176	151	184	133
Average Queue (ft)	42	55	54	54	76	98	118	109	48	76	61	58	54
95th Queue (ft)	92	102	109	109	122	175	202	190	114	146	117	123	105
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								1	0		1	7	2
Queuing Penalty (veh)								1	0		1	12	2

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	172	109	106	311	332	66	123	149	168	142	140	309	341
Average Queue (ft)	60	36	44	107	185	13	48	62	84	61	57	111	183
95th Queue (ft)	127	86	87	241	289	42	102	122	143	107	118	232	298
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		
Storage Blk Time (%)				0	0							0	
Queuing Penalty (veh)				0	1							0	

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	255	284	198	161	93	288	255	202	56	437	484	163	147	198	436	446	342
Average Queue (ft)	146	186	96	49	29	191	160	66	17	292	319	85	70	34	278	244	177
95th Queue (ft)	242	271	163	127	69	264	236	173	43	420	447	142	133	117	397	406	326
Link Distance (ft)		1375	1375	1375		1274	1274	1274			2052	2052	2052		501	501	
Upstream Blk Time (%)															0	2	
Queuing Penalty (veh)															0	0	
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)		0				0		0		0	0				6	1	5

Queuing Penalty (veh)	0			0		0		0	1	2	4	14

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	208	228	130	452	210	256	489	235	596	160
Average Queue (ft)	94	95	53	185	115	70	235	136	226	109
95th Queue (ft)	173	181	125	356	228	189	416	251	483	194
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			5	38	1		9	4	25	2
Queuing Penalty (veh)			24	98	4		6	15	87	6

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	84	101	143	78	106	56	183	235	81	69	163	150
Average Queue (ft)	30	30	65	22	38	21	78	98	8	17	88	71
95th Queue (ft)	67	76	112	57	84	48	148	192	44	49	147	130
Link Distance (ft)		1163			1019			1058	1058		414	414
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300	300		300	300			300		
Storage Blk Time (%)								0				
Queuing Penalty (veh)								0				

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	89	104	118	86	82	85	51
Average Queue (ft)	44	44	51	28	29	44	20
95th Queue (ft)	79	80	95	67	68	76	46
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							

Queuing Penalty (veh)							
Storage Bay Dist (ft)		300	400			150	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	202	211	521	558	509	215	179	202	206	286	319	311	66	180	210	224	137	171	317	77	94	213	211	337
Average Queue (ft)	111	128	306	331	263	84	90	116	114	174	192	176	13	94	116	127	67	76	145	18	36	112	102	167
95th Queue (ft)	179	195	465	499	435	167	160	185	180	261	286	277	42	162	189	197	118	141	270	51	76	193	189	288
Link Distance (ft)			1066	1066	1066				1589	1589	1589	1589			726	726	726	726				1217	1217	
Upstream Blk Time (%)																								
Queuing Penalty (veh)																								
Storage Bay Dist (ft)	800	800				1000	970	970					850	720					840	520	520			720
Storage Blk Time (%)																								
Queuing Penalty (veh)																								

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	LT	R
Maximum Queue (ft)	161	83	95	188	92	84	105	67
Average Queue (ft)	83	21	39	84	32	33	39	14
95th Queue (ft)	142	57	82	156	71	71	86	45
Link Distance (ft)		2870		5347		1593	799	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	300		300		200			300
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 18: Bentley & Claribel

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	58	45	82	58	73	60
Average Queue (ft)	6	4	30	24	34	21

95th Queue (ft)	29	23	63	54	63	50
Link Distance (ft)	2720	2487	1498		1216	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			6	3	8	3
Queuing Penalty (veh)			2	1	2	2

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	103	181	206	101	212	163	122	114	126	110	105
Average Queue (ft)	46	77	93	41	106	75	55	48	60	35	46
95th Queue (ft)	90	150	168	80	175	142	102	94	109	81	82
Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)		0			0				2	1	1
Queuing Penalty (veh)		0			0				4	4	1

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	836	260	360	2534	2519	312	313	156	600	570
Average Queue (ft)	94	300	206	346	1582	1242	179	180	46	340	306
95th Queue (ft)	130	616	296	410	2962	2978	280	280	108	537	502
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)					19	10					
Queuing Penalty (veh)					0	0					
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	56	42	9	84	12			0			
Queuing Penalty (veh)	274	172	29	260	16			1			

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB

Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	150	246	252	208	198	207	158	176	146	106	133	250	146
Average Queue (ft)	46	111	120	98	87	100	76	104	60	43	41	90	59
95th Queue (ft)	105	194	210	175	164	175	144	161	117	90	94	169	117
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)		0		1	0		0	0	16	1	1	9	0
Queuing Penalty (veh)		0		2	0		0	0	61	6	3	17	1

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	115	116	72	99	169	181	100	290	294	190	282	299
Average Queue (ft)	43	37	23	30	72	81	39	170	142	82	126	151
95th Queue (ft)	93	85	57	72	141	143	83	267	249	154	239	262
Link Distance (ft)		5602			2237			1498			2125	2125
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	225		225	400		300	400		
Storage Blk Time (%)					0			0	0		0	
Queuing Penalty (veh)					0			0	0		0	

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	65	116	72	126	275	193	259	243	92	277	260	77
Average Queue (ft)	17	42	25	38	126	81	133	111	28	162	128	22
95th Queue (ft)	48	90	53	89	221	161	221	208	70	248	224	57
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)		0			3		0			0	0	
Queuing Penalty (veh)		0			1		0			0	0	

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	66	104	95	117	127	119	124	120	107	126	210	126	111	136	80	231
Average Queue (ft)	12	43	30	50	67	49	50	49	36	53	95	49	46	56	16	112
95th Queue (ft)	40	84	72	99	113	101	102	100	85	109	172	102	95	109	51	197
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	600				700	600				600
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 25: NCC SPUI & Roselle

Movement	NB	NB	NB	NB	SB	SB	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	>	L	T	T	>	L	L	>	L	L	>
Maximum Queue (ft)	248	208	138	172	145	166	162	57	43	30	155	131	139	111
Average Queue (ft)	112	89	32	65	61	71	73	7	8	2	74	54	72	47
95th Queue (ft)	205	166	97	138	121	138	141	31	29	14	131	108	117	95
Link Distance (ft)		671	671			1058	1058				1221			1160
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	400			400	550			550	500	500		500	500	
Storage Blk Time (%)	0	0												
Queuing Penalty (veh)	0	0												

Intersection: 26: Crane Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L	T	R	L	T	R	R
Maximum Queue (ft)	272	276	174	191	175	40	118	183	201	221	64	81	110	122	114	94	210	226
Average Queue (ft)	145	156	88	101	87	5	36	100	104	110	15	28	35	48	47	32	96	118
95th Queue (ft)	240	240	151	172	156	25	87	163	179	190	45	64	82	98	96	76	169	195
Link Distance (ft)		1599	1599	1599	1599			1340	1340	1340			914			2750	2750	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	750					630	930				630	150		300	275			275

Storage Blk Time (%)													0				0	0		
Queuing Penalty (veh)													0				0	0		

Intersection: 27: Albers Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B164
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T	T	R	L	T	T	R	R	T
Maximum Queue (ft)	521	502	142	145	98	177	185	212	227	82	244	530	555	418	86	218	209	118	118	50
Average Queue (ft)	302	291	53	52	26	92	97	105	115	22	29	263	271	96	23	129	119	46	40	2
95th Queue (ft)	481	471	112	113	71	157	159	189	196	60	123	463	476	292	63	198	192	91	92	21
Link Distance (ft)		1588	1588	1588				4614	4614			2125	2125			2166	2166			80
Upstream Blk Time (%)																				0
Queuing Penalty (veh)																				0
Storage Bay Dist (ft)	750				750	720	720			670	200			300	200			500	500	
Storage Blk Time (%)												23	9			1				
Queuing Penalty (veh)												5	21			0				

Intersection: 28: STERNS & NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	187	88	109	37	85	157	157	61	76	61	80	108
Average Queue (ft)	85	22	43	3	20	72	72	13	28	11	25	47
95th Queue (ft)	154	64	90	19	58	133	131	43	66	38	61	82
Link Distance (ft)		1991	1991			2785	2785		267		629	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	870			570	570			570		100		300
Storage Blk Time (%)									0			
Queuing Penalty (veh)									0			

Intersection: 29: NCC & SR 120/108

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	146	194	37	14
Average Queue (ft)	49	30	4	1
95th Queue (ft)	107	114	20	11
Link Distance (ft)	2046	1098	1602	1602

Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	74	66	67	63	126	72	102	119	45	69	130	109	160	43
Average Queue (ft)	23	22	14	17	56	12	28	36	5	19	60	36	61	8
95th Queue (ft)	61	51	46	48	105	46	73	88	25	53	108	87	125	30
Link Distance (ft)		882		1230		1038	1038	1038			2422	2422	2422	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	300		300		300				300	300				300
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B300
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R	T
Maximum Queue (ft)	87	84	161	133	105	191	159	78	97	117	183	198	69	90
Average Queue (ft)	30	33	66	61	30	84	56	31	35	59	85	101	20	3
95th Queue (ft)	69	71	129	111	76	155	113	64	81	97	154	167	53	92
Link Distance (ft)		430		638		834	834				757	757	757	737
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	300		300		300			400	450	450				
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T
Maximum Queue (ft)	79	78	132	59	90	77	99	68	92	120	220

Average Queue (ft)	30	27	51	20	34	24	38	19	36	45	90
95th Queue (ft)	68	62	103	49	74	61	80	54	76	95	174
Link Distance (ft)		1262		1986		952	952			1368	1368
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300		300		300			300	300		
Storage Blk Time (%)											0
Queuing Penalty (veh)											0

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	150	76	93	118	86	237	219	35	116	125	114	57
Average Queue (ft)	64	31	29	52	27	108	82	4	45	38	45	8
95th Queue (ft)	122	65	69	96	64	202	170	20	95	92	94	34
Link Distance (ft)		729		1093		1259	1259			902	902	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)						0	0					
Queuing Penalty (veh)						0	0					

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	152	118	150	126	86	184	296	58	91	150	146	54
Average Queue (ft)	69	49	59	51	32	62	130	14	33	59	69	11
95th Queue (ft)	126	94	115	96	71	134	242	40	73	124	123	38
Link Distance (ft)		636		496		370	370			1357	1357	1357
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)	300		300		300			300	300			
Storage Blk Time (%)							0					
Queuing Penalty (veh)							0					

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	94	208	231	223	103	156	168
Average Queue (ft)	31	93	108	98	40	61	80
95th Queue (ft)	73	162	193	181	83	126	141
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Davis & Claribel Realigned (N)

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	66	69	26	6	20
Average Queue (ft)	23	24	2	0	1
95th Queue (ft)	56	56	14	0	10
Link Distance (ft)	662	702		778	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			50		50
Storage Blk Time (%)			0	0	
Queuing Penalty (veh)			0	0	

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	80	109	188	83	164	229	92	112	216
Average Queue (ft)	26	42	75	29	51	93	29	44	81
95th Queue (ft)	62	83	141	69	120	182	69	92	159
Link Distance (ft)		1110	417		1217	1217		1028	1028
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	NB	SB	SB	SB	SB	B501	B501
Directions Served	L	R	T	T	R	L	L	T	T	T	T
Maximum Queue (ft)	119	186	202	316	69	96	110	171	182	73	72
Average Queue (ft)	47	87	77	168	21	29	58	67	86	3	3
95th Queue (ft)	96	156	149	280	58	72	100	147	157	75	74
Link Distance (ft)	437		1878	1878				1205	1205	726	726
Upstream Blk Time (%)										0	
Queuing Penalty (veh)										0	
Storage Bay Dist (ft)		300			300	890	890				
Storage Blk Time (%)				0							
Queuing Penalty (veh)				0							

Intersection: 39: STERNS

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	78	83	46	7	56	2
Average Queue (ft)	34	33	4	0	5	0
95th Queue (ft)	67	69	24	8	30	2
Link Distance (ft)	675	1267		629		945
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200		200	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 40: NCC

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	LT	TR	LT	TR
Maximum Queue (ft)	64	8	65	42	51	63	58
Average Queue (ft)	8	1	8	9	5	12	5
95th Queue (ft)	37	12	36	34	27	43	27
Link Distance (ft)	3058	3058	3378	639	639	764	764
Upstream Blk Time (%)							
Queuing Penalty (veh)							

Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 56:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 57:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 58:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)

Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 63:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 65: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 81:

Movement
Directions Served

Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 84: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 90: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	342	69
Average Queue (ft)	20	2
95th Queue (ft)	166	51
Link Distance (ft)	586	586
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 99:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 101:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 118: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 121:

Movement			
Directions Served			
Maximum Queue (ft)			
Average Queue (ft)			
95th Queue (ft)			
Link Distance (ft)			
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 124: NCC

Movement	B156	B156	B156
Directions Served	T	T	
Maximum Queue (ft)	86	149	31
Average Queue (ft)	3	8	1
95th Queue (ft)	51	72	16
Link Distance (ft)	1066	1066	1066
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 127: NCC SPUI & NCC

Movement			
Directions Served			
Maximum Queue (ft)			
Average Queue (ft)			
95th Queue (ft)			
Link Distance (ft)			
Upstream Blk Time (%)			

Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 129:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 154: Bend

Movement	EB	EB
Directions Served	T	T
Maximum Queue (ft)	468	792
Average Queue (ft)	17	28
95th Queue (ft)	282	375
Link Distance (ft)	1589	1589
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 157: Crane Rd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)

95th Queue (ft)		
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 186: Bend

Movement	EB	EB
Directions Served	T	
Maximum Queue (ft)	4	2
Average Queue (ft)	0	0
95th Queue (ft)	3	2
Link Distance (ft)	437	437
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 203:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 208:

Movement

Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 209:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 214:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary
Network wide Queuing Penalty: 2400

SimTraffic Performance Report
2042 Alternative 1B PM Peak Hour
9/3/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1	0.2	0.9	0	0	0	2.3	0.6	0.6	2.4	0.5	0.4	0.3
Total Del/Veh (s)	59.8	58.5	22.9	69.3	31.9	14.5	61.6	78.1	57.6	56.8	44.4	26.5	46.3
Vehicles Exited	56	1668	271	193	1750	103	159	104	186	152	93	19	4754
Hourly Exit Rate	56	1668	271	193	1750	103	159	104	186	152	93	19	4754
Input Volume	60	1670	270	200	1760	100	160	110	190	150	90	20	4779
% of Volume	93	100	100	97	99	103	100	95	98	102	104	94	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	56.4	59.7	32.6	80.7	16.6	4.3	84.9	38.8	8.6	63.8	120	65.6	46.7
Vehicles Exited	27	1629	356	591	1412	90	592	218	815	131	212	43	6116
Hourly Exit Rate	27	1629	356	591	1412	90	592	218	815	131	212	43	6116
Input Volume	30	1621	360	600	1422	90	600	220	820	130	210	40	6142
% of Volume	91	100	99	99	99	100	99	99	99	101	101	108	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.5	0.5	0.5	0	0	0	0	0	0	0.4	0.2	0.2	0.2
Total Del/Veh (s)	564	474	457	79.8	54.2	19.9	59.5	41.8	33.9	797	71	63.5	253
Vehicles Exited	225	204	34	20	370	98	75	525	18	287	599	293	2748
Hourly Exit Rate	225	204	34	20	370	98	75	525	18	287	599	293	2748
Input Volume	270	240	40	20	370	100	80	520	20	410	610	300	2981
% of Volume	83	85	86	99	100	98	93	101	89	70	98	98	92
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	18.8	5.2	8.9	1.1	12.8	9.5
Vehicles Exited	157	21	596	372	656	1802
Hourly Exit Rate	157	21	596	372	656	1802
Input Volume	160	20	600	370	670	1820
% of Volume	98	104	99	100	98	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.1	0	0.5	0.5	0	0.3
Total Del/Veh (s)	31.8	15.2	23.7	5.6	8.1	16.7
Vehicles Exited	498	15	164	488	372	1537
Hourly Exit Rate	498	15	164	488	372	1537
Input Volume	654	20	160	490	370	1694
% of Volume	76	74	103	100	100	91
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 Performance by movement

Movement	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	25.8	25.1	26.9	25.3	19.9	16.8	10.9	22.8	26.2	12.2	19.5
Vehicles Exited	217	346	330	247	202	690	886	136	567	256	3877
Hourly Exit Rate	217	346	330	247	202	690	886	136	567	256	3877
Input Volume	220	340	330	240	200	690	880	130	560	250	3840
% of Volume	99	102	100	103	101	100	101	104	101	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	379	384	390	56.9	59.2	60	11.4	11.9	10.9	5.1	3.4	3.3	137
Total Del/Veh (s)	716	750	707	876	67.5	17.6	510	455	422	120	68.7	76.4	394
Vehicles Exited	250	1266	276	296	899	273	324	1068	238	721	1357	292	7260
Hourly Exit Rate	250	1266	276	296	899	273	324	1068	238	721	1357	292	7260
Input Volume	390	1970	440	440	990	300	400	1290	290	730	1360	300	8900
% of Volume	64	64	63	67	91	91	81	83	82	99	100	97	82
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	105	542	126	41	95	31	9	34	6	2	3	0	994

8: Coffee Rd Performance by movement

Movement	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NET	NER2	SWL	SWT	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0		0	0		0	0
Total Del/Veh (s)	25.5	13.5	17	35.4	24.3	17.6	43.1		25.8	21.2		38.5	26.5
Vehicles Exited	278	266	469	47	227	268	716	0	359	370	0	55	3055
Hourly Exit Rate	278	266	469	47	227	268	716	0	359	370	0	55	3055
Input Volume	280	260	470	50	221	270	710	0	370	370	0	60	3062
% of Volume	99	102	100	94	103	99	101	0	97	100	0	92	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	10	9	10.6	1	0.1	0.1	2.6	0.1	0.2	2.8	0.2	2.9	5
Total Del/Veh (s)	118	111	51.8	86	37.9	21.7	55.1	55.7	42.5	63.8	39.7	25.2	71.6
Vehicles Exited	464	1814	544	203	1028	122	336	529	174	183	206	408	6011
Hourly Exit Rate	464	1814	544	203	1028	122	336	529	174	183	206	408	6011
Input Volume	480	1860	560	200	1030	120	340	530	170	180	200	400	6070
% of Volume	97	98	97	102	100	101	99	100	103	102	103	102	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	3	7	3	0	0	0	0	0	0	0	0	1	14

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.2	0.2	0.2	0.3	0.1	0.1	1.5	0.3	0.1	2	0.3	2.2	0.5
Total Del/Veh (s)	50.9	28.9	22.5	51.3	20.2	14.3	53.7	33.2	37.3	53.6	42.5	7.9	34.5

Vehicles Exited	108	714	153	349	357	53	202	112	232	60	78	69	2487
Hourly Exit Rate	108	714	153	349	357	53	202	112	232	60	78	69	2487
Input Volume	110	700	150	350	350	50	190	110	230	60	80	70	2451
% of Volume	98	102	102	100	102	106	106	102	101	100	97	98	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.3	0.2	0.4	0.3	3.3	0	0	0	0.3	0.1	0.1	0.3
Total Del/Veh (s)	31	42.9	11.4	34.5	52.8	3.9	44.8	22	12.3	48.9	33.3	30.5	26.4
Vehicles Exited	90	19	143	395	20	69	169	551	564	77	635	50	2782
Hourly Exit Rate	90	19	143	395	20	69	169	551	564	77	635	50	2782
Input Volume	90	20	140	400	20	70	170	560	560	80	620	50	2781
% of Volume	100	94	102	99	99	98	99	98	101	96	102	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.3	1.2	2.8	3.1	0.1	3.1	0.4	0.2	0.2	2.8	0.4	2.8	1.2
Total Del/Veh (s)	50.4	44.7	12.3	65.1	45.8	7.1	44.9	20.9	15.6	52	46.7	9.5	32.9
Vehicles Exited	352	806	1088	63	490	42	587	707	102	28	649	292	5206
Hourly Exit Rate	352	806	1088	63	490	42	587	707	102	28	649	292	5206
Input Volume	350	800	1080	60	500	40	590	710	100	30	640	290	5190
% of Volume	101	101	101	105	98	106	99	100	102	94	101	101	100
Denied Entry Before	0	0	1	0	0	0	0	0	0	0	0	0	1
Denied Entry After	0	0	1	0	0	0	0	0	0	0	0	0	1

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.3	0.3	0.3	3.6	0.6	0.6	2.4	1.1	2.3	0.9
Total Del/Veh (s)	69.2	40	31	69.9	44.6	16.1	67.8	92.3	85.2	62.1	56.7	20.3	55.3
Vehicles Exited	291	402	37	48	191	158	68	313	48	258	199	152	2165
Hourly Exit Rate	291	402	37	48	191	158	68	313	48	258	199	152	2165
Input Volume	290	410	40	50	190	150	70	310	50	270	200	150	2180

% of Volume	100	98	93	96	100	106	97	101	96	96	100	102	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.9	3.6	3.9	0.5	4	0	0	0	0	0	0	0.7
Total Del/Veh (s)	36.6	27.6	6.9	36.5	19.9	2.7	35.5	22.7	6.7	37.1	23	12.5	23.1
Vehicles Exited	18	180	198	76	60	21	236	486	82	40	414	21	1832
Hourly Exit Rate	18	180	198	76	60	21	236	486	82	40	414	21	1832
Input Volume	20	180	200	80	60	20	230	490	80	40	410	20	1831
% of Volume	89	100	99	95	100	104	103	99	102	101	101	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.5	3.8	0.4
Total Del/Veh (s)	9.4	5.6	18.3	3.6	15.7	4.8	8.3
Vehicles Exited	536	224	80	250	106	120	1316
Hourly Exit Rate	536	224	80	250	106	120	1316
Input Volume	540	220	80	250	100	120	1310
% of Volume	99	102	100	100	106	100	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	70.8	53.4	16	70.8	36.2	7.5	65.9	32.9	16.6	59.7	70.1	30.2	47.4
Vehicles Exited	361	1296	425	739	1272	77	572	312	435	49	415	360	6313
Hourly Exit Rate	361	1296	425	739	1272	77	572	312	435	49	415	360	6313
Input Volume	370	1290	430	740	1290	80	580	300	430	50	411	360	6332
% of Volume	98	100	99	100	99	96	99	104	101	98	101	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2	0.6	0.6	0.2	0.3	0.2	2.6	0.2	0.2	0	0	0	0.6
Total Del/Veh (s)	20.2	12.1	6	27.2	21.6	10.3	22.1	10.6	3.9	13.2	15	8.6	14.3
Vehicles Exited	198	180	51	52	180	52	47	10	51	97	10	322	1250
Hourly Exit Rate	198	180	51	52	180	52	47	10	51	97	10	322	1250
Input Volume	200	180	50	50	180	50	50	10	50	100	10	320	1250
% of Volume	99	100	102	104	100	104	94	98	102	97	95	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

18: Bentley & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	3.9	0.2	0.2	4.1	0.5
Total Del/Veh (s)	4.7	2.8	2.2	2.3	2.3	0.9	8.8	12.2	4.7	7.6	11.5	3.4	4.1
Vehicles Exited	22	266	28	37	142	40	27	41	37	39	29	20	728
Hourly Exit Rate	22	266	28	37	142	40	27	41	37	39	29	20	728
Input Volume	20	270	30	40	140	40	30	40	40	40	30	20	738
% of Volume	109	99	94	93	101	101	91	103	93	98	97	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.6	0.7	0.7	3.7	0.5	0.4	2.1	0.5	2.1	0.7
Total Del/Veh (s)	27.7	12.1	8.8	33.4	18.7	12	22.2	17.5	8.3	21.7	17.5	6	16.1
Vehicles Exited	100	636	53	38	633	80	109	59	84	102	64	113	2071
Hourly Exit Rate	100	636	53	38	633	80	109	59	84	102	64	113	2071
Input Volume	100	630	50	40	640	80	110	60	80	100	60	110	2059
% of Volume	100	101	107	96	99	100	99	98	105	102	107	103	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.7	0.6	0.6	7.8	6.6	6.7	1.9	1.1	1.9	0.2	0.2	0.2	2.5
Total Del/Veh (s)	94.6	46.1	39.2	427	309	60.1	59.8	62.5	17.3	66	58.5	53.3	103
Vehicles Exited	106	468	50	98	368	403	124	556	123	333	442	90	3161
Hourly Exit Rate	106	468	50	98	368	403	124	556	123	333	442	90	3161
Input Volume	110	470	50	120	400	420	120	550	120	340	440	80	3218
% of Volume	97	100	101	82	92	96	104	101	103	98	100	112	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	1	4	3	0	0	0	0	0	0	8

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.6	0.2	0.2	0.4	0.1	0.1	2	0.7	2	0.3	0.3	0.3	0.6
Total Del/Veh (s)	36.5	22.2	15.2	37	22.1	15.7	37.5	25.8	9.3	40	28.5	11	23.5
Vehicles Exited	126	467	171	126	566	50	149	174	184	55	143	132	2343
Hourly Exit Rate	126	467	171	126	566	50	149	174	184	55	143	132	2343
Input Volume	130	460	170	130	560	50	150	170	180	60	140	130	2330
% of Volume	97	101	100	97	101	101	99	102	102	92	102	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.3	3.8	0.7	3.7	3.3	1.8	3.4	0	0	0	1
Total Del/Veh (s)	46.4	35	8.8	41.9	34.6	9.1	41.7	44.4	32	46.3	26	20.6	33.9
Vehicles Exited	79	225	33	18	40	230	39	558	27	379	645	62	2335
Hourly Exit Rate	79	225	33	18	40	230	39	558	27	379	645	62	2335
Input Volume	80	230	30	20	40	230	40	560	30	390	641	60	2350
% of Volume	98	98	111	89	101	100	98	100	91	97	101	103	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.7	3.7	2.5	0.3	0.3	2.9	0.2	0.3	3	0.2	3.1	0.8
Total Del/Veh (s)	35.7	29.3	7.7	36.3	26.6	12	31.7	13.9	7.8	38.6	18.7	5.7	18.3

Vehicles Exited	19	159	162	36	100	30	96	661	52	26	588	20	1949
Hourly Exit Rate	19	159	162	36	100	30	96	661	52	26	588	20	1949
Input Volume	20	160	170	40	100	30	100	660	50	30	590	20	1969
% of Volume	94	100	95	91	100	101	96	100	104	87	100	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0		0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	23.8		29.2	16.6	0.7	24.9	23.1	19.9	13.1	27.5	18.5	10.7	19.2
Vehicles Exited	686	0	164	295	1	193	17	404	408	137	612	430	3347
Hourly Exit Rate	686	0	164	295	1	193	17	404	408	137	612	430	3347
Input Volume	690	0	160	300	1	200	20	401	400	140	600	420	3332
% of Volume	99	0	103	98	133	97	84	101	102	98	102	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

25: NCC SPUI & Roselle Performance by movement

Movement	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NET	NER2	SWL	SWT	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0
Total Del/Veh (s)	18.6	13	7.4	25.1	19	7.1	22.7	0.2	18.7	23.7	0.1	22.7	16.6
Vehicles Exited	165	588	272	97	544	49	70	14	357	127	9	143	2435
Hourly Exit Rate	165	588	272	97	544	49	70	14	357	127	9	143	2435
Input Volume	170	580	270	100	541	50	70	13	360	130	8	150	2442
% of Volume	97	101	101	97	101	98	100	106	99	98	112	95	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

26: Crane Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.3	0.2	0.2	0
Total Del/Veh (s)	55.4	20.2	4.8	45.2	37.7	11.3	51.9	42.5	11.3	62.7	38.5	16.6	32.4
Vehicles Exited	817	898	51	232	1273	72	22	47	243	61	92	807	4615
Hourly Exit Rate	817	898	51	232	1273	72	22	47	243	61	92	807	4615
Input Volume	820	900	50	240	1271	70	20	50	240	60	90	820	4632

% of Volume	100	100	102	97	100	102	109	94	101	102	103	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

27: Albers Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	44.1	14.6	7	53	44	11.8	82.9	27.6	14.9	53.6	35.2	18.4	29.8
Vehicles Exited	694	461	43	195	396	23	18	565	283	50	846	1158	4732
Hourly Exit Rate	694	461	43	195	396	23	18	565	283	50	846	1158	4732
Input Volume	700	460	40	200	400	20	20	570	280	50	850	1160	4750
% of Volume	99	100	108	98	99	114	89	99	101	100	100	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

28: STERNS & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	18.6	6.6	2.2	23.9	18.4	5.2	12.8	14.2	3.7	14.4	16.7	6.1	11.9
Vehicles Exited	256	493	42	19	362	19	28	20	23	18	22	224	1526
Hourly Exit Rate	256	493	42	19	362	19	28	20	23	18	22	224	1526
Input Volume	260	490	40	20	360	20	30	20	20	20	20	230	1532
% of Volume	99	101	106	94	100	94	94	99	114	89	107	97	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.2	0.3	0	0	0	0	0	0
Total Del/Veh (s)	9.6	5.2	7.5	11.9	2.1	0.4	5.3	7.4
Vehicles Exited	218	43	356	224	83	1	441	1366
Hourly Exit Rate	218	43	356	224	83	1	441	1366
Input Volume	220	40	360	220	90	1	440	1370
% of Volume	99	108	99	102	92	133	100	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.3	0.3	3.9	0.2	0.2	0	0	0	1.6	0.2	1.4	0.3
Total Del/Veh (s)	19.8	19.9	6.7	21.7	15.5	6.1	23.9	9.9	5.2	22.7	9.5	3.4	10.7
Vehicles Exited	56	10	137	48	11	50	96	1005	49	52	778	33	2325
Hourly Exit Rate	56	10	137	48	11	50	96	1005	49	52	778	33	2325
Input Volume	60	10	130	50	10	50	100	1000	50	50	760	30	2301
% of Volume	93	98	105	96	107	100	96	100	98	104	102	111	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.5	0.5	3.5	0.8	0.9	2.3	0.5	2.3	0	0	0	0.7
Total Del/Veh (s)	54.9	60.8	14.1	41.7	54.8	35.7	55.6	29.6	7	55.5	13	2.1	27.8
Vehicles Exited	101	10	94	183	10	289	47	1386	196	292	885	69	3562
Hourly Exit Rate	101	10	94	183	10	289	47	1386	196	292	885	69	3562
Input Volume	100	10	90	190	10	290	50	1380	200	290	871	70	3552
% of Volume	101	98	105	96	98	100	94	100	98	101	102	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4	0.4	0.3	0.2	0.2	0.2	0	0	0	3.4	0.2	3.3	0.4
Total Del/Veh (s)	17	17	4.8	19.4	16.2	7	26.2	9.9	5.2	21.2	6.6	3.3	10.1
Vehicles Exited	50	11	53	102	12	48	49	889	98	50	387	53	1802
Hourly Exit Rate	50	11	53	102	12	48	49	889	98	50	387	53	1802
Input Volume	50	10	50	100	10	50	50	880	100	50	390	50	1790
% of Volume	100	107	106	102	117	96	98	101	98	100	99	106	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.4	0.4	3.9	0.4	0.3	2.7	0.4	2.7	0	0	0	0.6
Total Del/Veh (s)	22.9	19.3	7	21.2	20.6	9.3	25.4	11.7	4.7	25.2	9.2	3.9	11.8
Vehicles Exited	101	11	50	51	10	101	47	810	46	96	761	98	2182
Hourly Exit Rate	101	11	50	51	10	101	47	810	46	96	761	98	2182
Input Volume	100	10	50	50	10	100	50	810	50	100	762	100	2192
% of Volume	101	107	100	102	98	101	94	100	92	96	100	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.4	0.4	4	0.2	0.3	2.7	0.6	2.9	0	0	0	0.7
Total Del/Veh (s)	24.6	24	8.4	23.7	20	7.9	23.7	9.5	3.2	27.3	12.5	4.4	12.5
Vehicles Exited	69	9	74	60	11	60	107	697	100	102	860	109	2258
Hourly Exit Rate	69	9	74	60	11	60	107	697	100	102	860	109	2258
Input Volume	70	10	70	60	10	60	110	690	100	100	850	110	2241
% of Volume	98	88	105	100	107	100	97	101	100	102	101	99	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	2	0.3	0.4	0.4	0	0	0.3
Total Del/Veh (s)	26.8	9.3	13	7.2	27.2	6.6	11.2
Vehicles Exited	103	150	877	101	107	920	2258
Hourly Exit Rate	103	150	877	101	107	920	2258
Input Volume	100	150	870	100	110	921	2250
% of Volume	103	100	101	101	97	100	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Davis & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.2	0.1	0.1	3.6	0.2	0.3	0	0	0	0.2
Total Del/Veh (s)	6.4	7.9	3.5	6.1	8.1	3.5	2.3	0.4	0.3	2.9	1.2	1	1.5

Vehicles Exited	8	9	10	8	11	10	10	207	11	9	148	11	452
Hourly Exit Rate	8	9	10	8	11	10	10	207	11	9	148	11	452
Input Volume	10	10	10	10	10	10	10	210	10	10	150	10	462
% of Volume	78	88	98	78	107	98	98	99	107	88	99	107	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.4	0.4	0.4	0	0	0	3.2	0.2	0.3	0.2
Total Del/Veh (s)	16.8	11.5	5.4	19.2	20.2	15	36.2	19.1	15.6	32.8	16.9	10.2	17.9
Vehicles Exited	126	11	91	311	12	49	65	524	159	49	422	90	1909
Hourly Exit Rate	126	11	91	311	12	49	65	524	159	49	422	90	1909
Input Volume	130	10	90	310	10	50	70	521	160	50	420	90	1912
% of Volume	97	105	101	100	117	98	93	101	100	98	100	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.6	1.3	0	0	0.3
Total Del/Veh (s)	22	13.6	20.6	10.7	125	11.4	27.6
Vehicles Exited	144	209	1108	248	344	1228	3281
Hourly Exit Rate	144	209	1108	248	344	1228	3281
Input Volume	150	210	1100	250	350	1230	3290
% of Volume	96	100	101	99	98	100	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: STERNS Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	0.2	0.2	0.2	0	0	0	3.6	0.3	0.3	0.4
Total Del/Veh (s)	9.7	10.9	5.3	9.6	9.5	5.6	4.1	2.2	1.6	3.6	1	0.6	3.5
Vehicles Exited	54	10	49	44	10	48	47	200	50	46	170	54	782
Hourly Exit Rate	54	10	49	44	10	48	47	200	50	46	170	54	782
Input Volume	50	10	50	50	10	50	50	200	50	50	170	50	791

% of Volume	108	98	98	88	98	96	94	100	100	92	100	108	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0
Total Del/Veh (s)	4.4	10.4	6.5	3	6.6	2.6	5.4	6.8	3.5	4	5.2	2.9	8
Vehicles Exited	21	483	23	19	359	21	19	11	23	20	11	22	1032
Hourly Exit Rate	21	483	23	19	359	21	19	11	23	20	11	22	1032
Input Volume	20	490	20	20	360	20	20	10	20	20	10	20	1032
% of Volume	104	99	114	94	100	104	94	107	114	99	107	109	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	711	711
Hourly Exit Rate	711	711
Input Volume	701	701
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8	8
Vehicles Exited	849	849
Hourly Exit Rate	849	849
Input Volume	890	890
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	11.4	11.4
Vehicles Exited	1064	1064
Hourly Exit Rate	1064	1064
Input Volume	1080	1080
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.5	6.5
Vehicles Exited	1593	1593
Hourly Exit Rate	1593	1593
Input Volume	1980	1980
% of Volume	80	80
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	274	274
Hourly Exit Rate	274	274
Input Volume	270	270
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3
Vehicles Exited	349	349
Hourly Exit Rate	349	349
Input Volume	350	350
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	440	440
Hourly Exit Rate	440	440
Input Volume	440	440
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	634	634
Hourly Exit Rate	634	634
Input Volume	650	650
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7

Vehicles Exited	237	237
Hourly Exit Rate	237	237
Input Volume	240	240
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	154	154
Hourly Exit Rate	154	154
Input Volume	150	150
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.9	7.9
Vehicles Exited	1516	1516
Hourly Exit Rate	1516	1516
Input Volume	1690	1690
% of Volume	90	90
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	695	695
Hourly Exit Rate	695	695
Input Volume	690	690

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	1801	1801
Hourly Exit Rate	1801	1801
Input Volume	1780	1780
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0	0.5	0.3
Total Del/Veh (s)	5.5	8.4	7.1
Vehicles Exited	1773	2097	3870
Hourly Exit Rate	1773	2097	3870
Input Volume	1770	2110	3880
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.2	7.2
Vehicles Exited	3028	3028
Hourly Exit Rate	3028	3028
Input Volume	3020	3020
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

56: Performance by movement

Movement	NET	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	1.5	1.5
Vehicles Exited	2003	562	2565
Hourly Exit Rate	2003	562	2565
Input Volume	2010	560	2570
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

57: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	3.4	3	3.1	3.3
Vehicles Exited	2007	1	1022	3030
Hourly Exit Rate	2007	1	1022	3030
Input Volume	2010	1	1010	3021
% of Volume	100	100	101	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

58: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	1.4	1.3
Vehicles Exited	1638	576	2214
Hourly Exit Rate	1638	576	2214
Input Volume	1660	570	2230
% of Volume	99	101	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	302	302
Hourly Exit Rate	302	302
Input Volume	300	300
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	861	861
Hourly Exit Rate	861	861
Input Volume	860	860
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.9	6.9
Vehicles Exited	867	867
Hourly Exit Rate	867	867
Input Volume	1020	1020
% of Volume	85	85
Denied Entry Before	0	0
Denied Entry After	0	0

62: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0.1	0
Total Del/Veh (s)	5.1	7.9	5.7

Vehicles Exited	1788	428	2216
Hourly Exit Rate	1788	428	2216
Input Volume	1786	430	2215
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

63: Performance by movement

Movement	EBT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	12.3	0.5	7
Vehicles Exited	2565	2096	4661
Hourly Exit Rate	2565	2096	4661
Input Volume	2571	2110	4681
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.3	7.3
Vehicles Exited	711	711
Hourly Exit Rate	711	711
Input Volume	730	730
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.3	6.3
Vehicles Exited	710	710
Hourly Exit Rate	710	710
Input Volume	720	720

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	937	937
Hourly Exit Rate	937	937
Input Volume	930	930
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	305	305
Hourly Exit Rate	305	305
Input Volume	300	300
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	336	336
Hourly Exit Rate	336	336
Input Volume	340	340
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	262	262
Hourly Exit Rate	262	262
Input Volume	270	270
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	558	558
Hourly Exit Rate	558	558
Input Volume	559	559
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	1366	1366
Hourly Exit Rate	1366	1366
Input Volume	1380	1380
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

72: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	2090	2090
Hourly Exit Rate	2090	2090
Input Volume	2090	2090
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.7	0	0.4
Total Del/Veh (s)	4	7.3	5.7
Vehicles Exited	788	855	1643
Hourly Exit Rate	788	855	1643
Input Volume	780	860	1639
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.4	0.2
Total Del/Veh (s)	4.2	0.5	2.4
Vehicles Exited	525	474	999
Hourly Exit Rate	525	474	999
Input Volume	530	470	1000
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

75: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7

Vehicles Exited	2094	2094
Hourly Exit Rate	2094	2094
Input Volume	2111	2111
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.4	8.4
Vehicles Exited	1927	1927
Hourly Exit Rate	1927	1927
Input Volume	1940	1940
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

77: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	4.2	1	1.5	3.9
Vehicles Exited	1926	7	214	2147
Hourly Exit Rate	1926	7	214	2147
Input Volume	1950	6	220	2176
% of Volume	99	112	97	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	110	110
Hourly Exit Rate	110	110
Input Volume	110	110

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	217	217
Hourly Exit Rate	217	217
Input Volume	220	220
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	237	237
Hourly Exit Rate	237	237
Input Volume	240	240
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	3.4	1.1	1.6	3.1
Vehicles Exited	1721	10	370	2101
Hourly Exit Rate	1721	10	370	2101
Input Volume	1720	10	370	2100
% of Volume	100	103	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	239	239
Hourly Exit Rate	239	239
Input Volume	240	240
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	822	822
Hourly Exit Rate	822	822
Input Volume	810	810
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0.1	0
Total Del/Veh (s)	2.6	4.2	2.8
Vehicles Exited	1996	270	2266
Hourly Exit Rate	1996	270	2266
Input Volume	2017	280	2297
% of Volume	99	96	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.7	0	0.5
Total Del/Veh (s)	1	1.2	1.1
Vehicles Exited	759	355	1114
Hourly Exit Rate	759	355	1114
Input Volume	760	350	1110
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.3	0	0.1
Total Del/Veh (s)	0.4	4.1	2.9
Vehicles Exited	328	653	981
Hourly Exit Rate	328	653	981
Input Volume	330	660	991
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.8	5.8
Vehicles Exited	856	856
Hourly Exit Rate	856	856
Input Volume	860	860
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4

Vehicles Exited	785	785
Hourly Exit Rate	785	785
Input Volume	800	800
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	709	709
Hourly Exit Rate	709	709
Input Volume	710	710
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.9	0	0.5
Total Del/Veh (s)	3.5	8.1	5.6
Vehicles Exited	966	812	1778
Hourly Exit Rate	966	812	1778
Input Volume	970	830	1800
% of Volume	100	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	190	190
Hourly Exit Rate	190	190
Input Volume	190	190

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

92: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	341	341
Hourly Exit Rate	341	341
Input Volume	349	349
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	762	762
Hourly Exit Rate	762	762
Input Volume	750	750
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	95	95
Hourly Exit Rate	95	95
Input Volume	99	99
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	103	103
Hourly Exit Rate	103	103
Input Volume	100	100
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

96: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.8	8.8
Vehicles Exited	2224	2224
Hourly Exit Rate	2224	2224
Input Volume	2990	2990
% of Volume	74	74
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	327	327
Hourly Exit Rate	327	327
Input Volume	330	330
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	846	846
Hourly Exit Rate	846	846
Input Volume	840	840
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	317	317
Hourly Exit Rate	317	317
Input Volume	310	310
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

100: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.6	7.8	5.1
Vehicles Exited	1197	1574	2771
Hourly Exit Rate	1197	1574	2771
Input Volume	1200	1580	2780
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.2	1.7	2.1

Vehicles Exited	1636	458	2094
Hourly Exit Rate	1636	458	2094
Input Volume	1660	451	2111
% of Volume	99	102	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	813	813
Hourly Exit Rate	813	813
Input Volume	830	830
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

103: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	2199	2199
Hourly Exit Rate	2199	2199
Input Volume	2230	2230
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	1162	1162
Hourly Exit Rate	1162	1162
Input Volume	1150	1150

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	1117	1117
Hourly Exit Rate	1117	1117
Input Volume	1130	1130
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	1776	1776
Hourly Exit Rate	1776	1776
Input Volume	1770	1770
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	626	626
Hourly Exit Rate	626	626
Input Volume	610	610
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	577	577
Hourly Exit Rate	577	577
Input Volume	580	580
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

109: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	2140	2140
Hourly Exit Rate	2140	2140
Input Volume	2170	2170
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.6	10.6
Vehicles Exited	2166	2166
Hourly Exit Rate	2166	2166
Input Volume	2210	2210
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	1098	1098
Hourly Exit Rate	1098	1098
Input Volume	1100	1100
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	409	409
Hourly Exit Rate	409	409
Input Volume	410	410
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	658	658
Hourly Exit Rate	658	658
Input Volume	660	660
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3

Vehicles Exited	698	698
Hourly Exit Rate	698	698
Input Volume	700	700
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	353	353
Hourly Exit Rate	353	353
Input Volume	350	350
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.4	6.4
Vehicles Exited	1000	1000
Hourly Exit Rate	1000	1000
Input Volume	990	990
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

117: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.1	1.7	1.2
Vehicles Exited	1713	489	2202
Hourly Exit Rate	1713	489	2202
Input Volume	1735	500	2235

% of Volume	99	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

118: Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	2.3	0.7	1.6	2.1
Vehicles Exited	1650	1	446	2097
Hourly Exit Rate	1650	1	446	2097
Input Volume	1670	1	440	2111
% of Volume	99	133	101	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	587	587
Hourly Exit Rate	587	587
Input Volume	610	610
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7	7
Vehicles Exited	582	582
Hourly Exit Rate	582	582
Input Volume	600	600
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

121: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	218	218
Hourly Exit Rate	218	218
Input Volume	220	220
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

122: NCC Performance by movement

Movement	WBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	5.5	1.4	2	3.7
Vehicles Exited	2200	62	2089	4351
Hourly Exit Rate	2200	62	2089	4351
Input Volume	2230	63	2090	4383
% of Volume	99	98	100	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	142	142
Hourly Exit Rate	142	142
Input Volume	140	140
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

124: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	31	31
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

125: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.7	3.9	3.1
Vehicles Exited	1604	853	2457
Hourly Exit Rate	1604	853	2457
Input Volume	1610	850	2460
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	2461	2461
Hourly Exit Rate	2461	2461
Input Volume	2460	2460
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

127: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.3	2.2	3

Vehicles Exited	1601	545	2146
Hourly Exit Rate	1601	545	2146
Input Volume	1610	540	2150
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

128: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	1022	1022
Hourly Exit Rate	1022	1022
Input Volume	1020	1020
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

129: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	2148	2148
Hourly Exit Rate	2148	2148
Input Volume	2150	2150
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	2097	2097
Hourly Exit Rate	2097	2097
Input Volume	2110	2110

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	936	936
Hourly Exit Rate	936	936
Input Volume	940	940
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0.4	0	0.2
Total Del/Veh (s)	7.1	12.8	10.2
Vehicles Exited	1761	2094	3855
Hourly Exit Rate	1761	2094	3855
Input Volume	1770	2111	3881
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	9.2	0.9	4.5
Vehicles Exited	1195	1572	2767
Hourly Exit Rate	1195	1572	2767
Input Volume	1200	1580	2780
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

134: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.7	3.9	3
Vehicles Exited	1196	1571	2767
Hourly Exit Rate	1196	1571	2767
Input Volume	1200	1580	2780
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.4	8.4
Vehicles Exited	1931	1931
Hourly Exit Rate	1931	1931
Input Volume	2240	2240
% of Volume	86	86
Denied Entry Before	0	0
Denied Entry After	0	0

136: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	159	159
Hourly Exit Rate	159	159
Input Volume	160	160
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

137: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.6	8.6
Vehicles Exited	737	737
Hourly Exit Rate	737	737
Input Volume	751	751
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

138: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	8.4	5.2
Total Del/Veh (s)	8.2	2.6	4.8
Vehicles Exited	1281	2049	3330
Hourly Exit Rate	1281	2049	3330
Input Volume	1290	2060	3351
% of Volume	99	99	99
Denied Entry Before	0	4	4
Denied Entry After	0	4	4

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.5	4.5
Vehicles Exited	924	924
Hourly Exit Rate	924	924
Input Volume	929	929
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

140: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7

Vehicles Exited	106	106
Hourly Exit Rate	106	106
Input Volume	110	110
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

141: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	1110	1110
Hourly Exit Rate	1110	1110
Input Volume	1110	1110
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

142: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	53	53
Hourly Exit Rate	53	53
Input Volume	51	51
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	53	53
Hourly Exit Rate	53	53
Input Volume	51	51

% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.5	0.2
Total Del/Veh (s)	4	2.5	3.3
Vehicles Exited	659	577	1236
Hourly Exit Rate	659	577	1236
Input Volume	660	580	1240
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

146: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	2.4		2.1	2.4
Vehicles Exited	1946	0	517	2463
Hourly Exit Rate	1946	0	517	2463
Input Volume	1940	0	520	2460
% of Volume	100	0	99	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

147: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0	0
Vehicles Exited	1281	1281
Hourly Exit Rate	1281	1281
Input Volume	1290	1290
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

148: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	31	31
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

149: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	1162	1162
Hourly Exit Rate	1162	1162
Input Volume	1170	1170
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	139	139
Hourly Exit Rate	139	139
Input Volume	140	140
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

151: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	165	165
Hourly Exit Rate	165	165
Input Volume	170	170
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

152: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	525	525
Hourly Exit Rate	525	525
Input Volume	530	530
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	13.9	11.1	12.4
Vehicles Exited	1781	2093	3874
Hourly Exit Rate	1781	2093	3874
Input Volume	1770	2110	3880
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.6	12.9	7.4

Vehicles Exited	2089	2203	4292
Hourly Exit Rate	2089	2203	4292
Input Volume	2090	2230	4320
% of Volume	100	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

157: Crane Rd Performance by movement

Movement	EBR	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.2	0	0	0
Total Del/Veh (s)	4.5	3.7	1.6	2.5	2.4
Vehicles Exited	53	52	262	377	744
Hourly Exit Rate	53	52	262	377	744
Input Volume	50	50	260	381	741
% of Volume	106	104	101	99	100
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

163: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	994	994
Hourly Exit Rate	994	994
Input Volume	980	980
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

165: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	953	953
Hourly Exit Rate	953	953
Input Volume	960	960

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	114	114
Hourly Exit Rate	114	114
Input Volume	110	110
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	155	155
Hourly Exit Rate	155	155
Input Volume	160	160
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	153	153
Hourly Exit Rate	153	153
Input Volume	160	160
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

172: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	548	548
Hourly Exit Rate	548	548
Input Volume	550	550
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	227	227
Hourly Exit Rate	227	227
Input Volume	230	230
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	284	284
Hourly Exit Rate	284	284
Input Volume	290	290
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	208	208
Hourly Exit Rate	208	208
Input Volume	210	210
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

177: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	591	591
Hourly Exit Rate	591	591
Input Volume	600	600
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

179: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	654	654
Hourly Exit Rate	654	654
Input Volume	660	660
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9

Vehicles Exited	126	126
Hourly Exit Rate	126	126
Input Volume	130	130
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	498	498
Hourly Exit Rate	498	498
Input Volume	500	500
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	987	987
Hourly Exit Rate	987	987
Input Volume	980	980
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	211	211
Hourly Exit Rate	211	211
Input Volume	210	210

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

184: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	112	112
Hourly Exit Rate	112	112
Input Volume	110	110
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

185: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	1366	1366
Hourly Exit Rate	1366	1366
Input Volume	1380	1380
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

186: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.3	0.1
Total Del/Veh (s)	2.7	0.1	1.7
Vehicles Exited	592	355	947
Hourly Exit Rate	592	355	947
Input Volume	600	360	960
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

187: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.7	6.7
Vehicles Exited	1778	1778
Hourly Exit Rate	1778	1778
Input Volume	1770	1770
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

188: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.5	1.6	4.1
Vehicles Exited	1199	1574	2773
Hourly Exit Rate	1199	1574	2773
Input Volume	1200	1580	2780
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

190: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	2216	2216
Hourly Exit Rate	2216	2216
Input Volume	2230	2230
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

191: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4	0.8	2.6
Vehicles Exited	530	399	929
Hourly Exit Rate	530	399	929
Input Volume	530	401	931
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

192: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	307	307
Hourly Exit Rate	307	307
Input Volume	310	310
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

193: Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.7	5.7	4.4
Vehicles Exited	1946	1079	3025
Hourly Exit Rate	1946	1079	3025
Input Volume	1940	1080	3020
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

194: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.9	1.5	3.4

Vehicles Exited	531	402	933
Hourly Exit Rate	531	402	933
Input Volume	530	401	931
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

195: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	655	655
Hourly Exit Rate	655	655
Input Volume	660	660
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

196: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.8	3.2	4.1
Vehicles Exited	530	400	930
Hourly Exit Rate	530	400	930
Input Volume	530	401	931
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

197: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3	4.7	3.8
Vehicles Exited	534	401	935
Hourly Exit Rate	534	401	935
Input Volume	530	401	931

% of Volume	101	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

198: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2	0.8	1.5
Vehicles Exited	526	398	924
Hourly Exit Rate	526	398	924
Input Volume	530	400	930
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

199: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.7	4.1	3.9
Vehicles Exited	532	401	933
Hourly Exit Rate	532	401	933
Input Volume	530	401	931
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	2141	2141
Hourly Exit Rate	2141	2141
Input Volume	2170	2170
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

201: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	301	301
Hourly Exit Rate	301	301
Input Volume	300	300
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

202: Bend Performance by approach

Approach	SB	NW	All
Denied Del/Veh (s)	0	0.1	0.1
Total Del/Veh (s)	0.9	0.1	0.5
Vehicles Exited	82	72	154
Hourly Exit Rate	82	72	154
Input Volume	80	70	150
% of Volume	102	102	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

203: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.4	4.5	5
Vehicles Exited	792	615	1407
Hourly Exit Rate	792	615	1407
Input Volume	790	620	1410
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

204: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	82	82
Hourly Exit Rate	82	82
Input Volume	80	80
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

205: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	112	112
Hourly Exit Rate	112	112
Input Volume	110	110
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

206: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	2.8	1.7
Vehicles Exited	1670	426	2096
Hourly Exit Rate	1670	426	2096
Input Volume	1680	430	2110
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

208: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2

Vehicles Exited	547	547
Hourly Exit Rate	547	547
Input Volume	550	550
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

209: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	2463	2463
Hourly Exit Rate	2463	2463
Input Volume	2460	2460
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

211: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.9	0.1	0.2	1.5
Vehicles Exited	1670	2	547	2219
Hourly Exit Rate	1670	2	547	2219
Input Volume	1680	1	550	2231
% of Volume	99	267	99	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

212: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	547	547
Hourly Exit Rate	547	547
Input Volume	550	550

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	1022	1022
Hourly Exit Rate	1022	1022
Input Volume	1010	1010
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

300: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	9.4	3	6.7
Vehicles Exited	1776	1245	3021
Hourly Exit Rate	1776	1245	3021
Input Volume	1770	1230	3000
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	2095	2095
Hourly Exit Rate	2095	2095
Input Volume	2110	2110
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

500: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.6	0	0.3
Total Del/Veh (s)	2.8	2.8	2.8
Vehicles Exited	1630	1161	2791
Hourly Exit Rate	1630	1161	2791
Input Volume	1640	1170	2810
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

501: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.4	5.6	5.5
Vehicles Exited	1313	1579	2892
Hourly Exit Rate	1313	1579	2892
Input Volume	1310	1580	2890
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	19
Total Del/Veh (s)	116
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	21
Denied Entry Before	5
Denied Entry After	1021

Queuing ar PM Peak Hour
2042 Alterr 9/3/2014

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	297	652	655	702	470	324	426	456	453	98	365	557	252	196
Average Queue (ft)	79	391	409	417	169	181	232	261	274	34	163	250	127	78
95th Queue (ft)	271	656	679	702	442	297	374	398	408	74	325	530	215	155
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	530				410	580				530	330		300	
Storage Blk Time (%)		6		12	0				0		0	10	0	
Queuing Penalty (veh)		4		32	0				0		0	17	0	

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	R	L	T	T	TR
Maximum Queue (ft)	165	1197	1738	1218	475	343	380	378	273	325	315	60	332	331	348	124	129	108	75	230	228	226	227
Average Queue (ft)	31	361	403	379	164	184	228	229	121	146	151	20	193	204	214	62	59	25	3	115	116	114	89
95th Queue (ft)	150	913	982	793	415	318	360	359	224	256	262	49	327	339	348	102	107	72	76	208	212	216	207
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923			3946	3946	3946
Upstream Blk Time (%)		0	0	0																			
Queuing Penalty (veh)		0	0	0																			
Storage Bay Dist (ft)	715				355	920	920	920				750	800						850	550			
Storage Blk Time (%)		1		14																			
Queuing Penalty (veh)		0		50																			

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	310	3728	150	500	220	244	348	320	350	4389	4320
Average Queue (ft)	309	2439	33	324	97	82	185	178	349	2776	2521

95th Queue (ft)	310	4070	107	508	238	173	288	278	350	4557	4749
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				2			0				
Queuing Penalty (veh)				12			0				
Storage Bay Dist (ft)	250		90		160	185			290		
Storage Blk Time (%)	84	4	1	55	0	0	10		86	2	
Queuing Penalty (veh)	234	10	5	66	0	1	8		262	9	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	149	190	255	241
Average Queue (ft)	73	99	105	83
95th Queue (ft)	128	165	223	192
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	450	180	145	188
Average Queue (ft)	268	81	14	82
95th Queue (ft)	432	144	96	152
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	2			
Storage Bay Dist (ft)		530		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	B300	B300	SB	SB	SB	SB	SB

Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	T	T	L	T	T	T	>
Maximum Queue (ft)	132	230	330	179	177	243	203	176	176	166	245	214	54	48	169	194	193	155	169
Average Queue (ft)	55	74	176	91	94	131	91	87	95	78	116	122	1	2	71	108	106	65	76
95th Queue (ft)	105	148	288	153	154	215	172	147	153	137	197	190	11	22	134	170	167	134	142
Link Distance (ft)			1111			1079		737	737	737	737		757	757		1038	1038	1038	
Upstream Blk Time (%)																			
Queuing Penalty (veh)																			
Storage Bay Dist (ft)	300	300		300	300		700					300			550				650
Storage Blk Time (%)			1			0													
Queuing Penalty (veh)			1			0													

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	221	410	4982	4982	4982	410	330	360	3518	3513	3501	252	255	285	3897	3887	3858	260	548	598	1118	977	901
Average Queue (ft)	107	372	4647	4641	4635	383	329	359	2579	2524	1570	84	208	276	2645	2618	2563	241	428	484	627	617	556
95th Queue (ft)	187	536	5738	5735	5730	526	334	363	4219	4219	4069	200	307	331	4310	4285	4180	328	632	705	1263	1192	950
Link Distance (ft)			4930	4930	4930				3465	3465	3465				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)			69	73	68				35	29	10				16	15	13				5	1	0
Queuing Penalty (veh)			0	0	0				0	0	0				0	0	0				0	0	0
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)		0	69		71	0	43	90	0		0		13	32	60		72	6	10	18	9		
Queuing Penalty (veh)		0	270		313	1	143	298	1		1		57	138	237		208	26	46	83	65		

Intersection: 8: Coffee Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	>	L	T	T	>	L	L	>	L	L	>
Maximum Queue (ft)	271	98	102	292	99	134	130	216	360	381	315	149	158	138
Average Queue (ft)	131	33	34	130	35	59	52	89	192	206	171	71	85	46
95th Queue (ft)	229	75	79	238	78	108	106	171	337	351	275	128	138	103
Link Distance (ft)		902	902			953	953			860	860			901
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	600			600	650			650	500			500	500	
Storage Blk Time (%)									0	0				
Queuing Penalty (veh)									0	0				

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	326	360	1379	1300	1146	360	343	435	416	326	221	309	467	448	295	231	494	357
Average Queue (ft)	199	301	1039	932	765	250	198	252	246	196	135	178	253	252	158	100	102	223
95th Queue (ft)	307	432	1574	1473	1402	460	336	391	375	289	215	262	428	419	255	179	337	371
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)			10	3	6													
Queuing Penalty (veh)			0	0	0													
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)	1	3	54		37	1	6	1				0	5		0	0	0	6
Queuing Penalty (veh)	4	20	260		209	7	20	2				0	17		0	0	0	6

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	184	359	359	218	224	153	184	252	267	305	165	183	127
Average Queue (ft)	88	201	209	125	132	69	92	158	87	158	59	67	41
95th Queue (ft)	157	311	322	202	203	132	162	245	193	267	120	140	93
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								6	0		1	12	0
Queuing Penalty (veh)								6	0		1	15	1

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	146	80	131	242	263	74	262	222	247	281	236	369	408
Average Queue (ft)	62	17	57	100	160	17	126	114	129	123	70	169	221
95th Queue (ft)	123	52	102	202	242	53	215	192	211	216	171	311	348
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		

Storage Blk Time (%)					0		0	0				1						
Queuing Penalty (veh)					0		0	0				1						

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	R	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	222	277	450	493	252	136	263	233	164	67	322	345	275	296	190	424	375	230
Average Queue (ft)	125	168	263	230	17	62	175	142	54	20	195	224	165	166	30	272	224	74
95th Queue (ft)	217	242	395	385	141	115	246	220	141	50	294	319	245	263	97	395	346	145
Link Distance (ft)		1375	1375	1375			1274	1274	1274			2052	2052	2052		522	522	
Upstream Blk Time (%)																0		
Queuing Penalty (veh)																0		
Storage Bay Dist (ft)	300				300	300				300	500				300			300
Storage Blk Time (%)		0		1			0									6	1	0
Queuing Penalty (veh)		0		16			0									2	2	0

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	455	489	134	335	210	310	865	235	769	160
Average Queue (ft)	255	254	61	150	85	126	459	203	326	94
95th Queue (ft)	434	435	129	265	190	322	837	279	673	184
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)							0			
Queuing Penalty (veh)							0			
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			10	36	0	0	40	24	29	1
Queuing Penalty (veh)			33	71	0	0	28	83	124	3

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	67	202	140	136	112	43	290	354	278	92	219	198
Average Queue (ft)	18	102	62	57	30	8	138	166	53	34	111	89
95th Queue (ft)	51	178	107	112	75	28	242	295	180	74	180	162
Link Distance (ft)		1163			1019			1058	1058		414	414

Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	300		300	300		300	300		300
Storage Blk Time (%)							0	1	0
Queuing Penalty (veh)							0	2	0

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	158	177	107	62	66	127	83
Average Queue (ft)	86	87	46	22	20	53	39
95th Queue (ft)	136	148	88	55	54	101	68
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		300	400				150
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	288	282	478	518	518	327	352	390	389	356	370	349	83	291	302	323	188	198	317	75	92	323	329	359
Average Queue (ft)	175	180	298	322	337	159	210	249	249	229	252	234	19	160	180	193	92	101	164	14	32	186	184	174
95th Queue (ft)	285	283	443	470	480	278	326	361	361	320	342	328	54	259	277	294	158	172	282	44	70	289	297	297
Link Distance (ft)			1066	1066	1066				1589	1589	1589	1589			726	726	726	726				1217	1217	
Upstream Blk Time (%)																								
Queuing Penalty (veh)																								
Storage Bay Dist (ft)	800	800				1000	970	970					850	720					840	520	520			720
Storage Blk Time (%)																								
Queuing Penalty (veh)																								

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	LT	R
Maximum Queue (ft)	186	154	101	203	100	73	134	200

Average Queue (ft)	90	52	40	86	36	29	49	91
95th Queue (ft)	158	116	84	157	80	63	104	163
Link Distance (ft)		2871		5346		1487	797	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	300		300		200			300
Storage Blk Time (%)								0
Queuing Penalty (veh)								0

Intersection: 18: Bentley & Claribel

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	65	57	97	62	80	60
Average Queue (ft)	6	8	39	25	37	18
95th Queue (ft)	32	33	75	56	67	49
Link Distance (ft)	2720	2487	1498		1216	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				20		20
Storage Blk Time (%)			10	4	9	2
Queuing Penalty (veh)			4	3	2	1

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	119	186	216	73	263	247	124	122	106	109	104
Average Queue (ft)	55	85	100	31	149	109	61	58	48	33	40
95th Queue (ft)	105	158	177	63	232	200	107	107	90	78	76
Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)					0	0			1	1	1
Queuing Penalty (veh)					2	0			2	3	1

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	689	260	360	2203	2126	561	618	309	613	573
Average Queue (ft)	94	286	198	287	1449	1108	306	319	120	375	339
95th Queue (ft)	132	602	292	473	2637	2607	527	562	330	599	550
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)					9	5					
Queuing Penalty (veh)					0	0					
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	59	44	7	15	66		0	17	0		
Queuing Penalty (veh)	304	175	24	59	79		0	85	0		

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	182	250	251	179	234	253	122	193	259	110	129	210	157
Average Queue (ft)	77	123	136	78	122	139	35	72	101	75	45	87	57
95th Queue (ft)	141	204	219	144	202	220	82	133	195	127	95	163	117
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)		0		0	1			0	28	6	1	6	1
Queuing Penalty (veh)		0		0	1			0	92	19	3	12	1

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	158	244	86	69	99	158	141	372	311	399	315	286
Average Queue (ft)	69	128	19	19	30	66	35	194	174	238	117	134
95th Queue (ft)	129	211	53	52	73	121	96	306	281	378	243	253
Link Distance (ft)		5602			2237			1498			2123	2123
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	225		225	400		300	400		
Storage Blk Time (%)		0				0		1	0	1		
Queuing Penalty (veh)		0				0		3	1	3		

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	63	206	118	99	173	149	242	223	84	244	207	60
Average Queue (ft)	16	79	41	34	70	66	116	91	27	136	106	12
95th Queue (ft)	47	154	87	78	135	124	202	181	66	213	187	41
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)		0			0		0					
Queuing Penalty (veh)		0			0		0					

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	217	326	199	119	126	202	58	139	124	167	213	174	189	183	136	201
Average Queue (ft)	118	177	97	51	64	103	12	63	57	72	104	73	89	97	56	93
95th Queue (ft)	190	272	169	98	108	170	39	116	106	135	176	140	161	165	120	158
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	600				700	600				600
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 25: NCC SPUI & Roselle

Movement	NB	NB	NB	NB	SB	SB	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	>	L	T	T	>	L	L	>	L	L	>
Maximum Queue (ft)	147	231	182	106	125	195	195	39	78	43	295	76	88	167
Average Queue (ft)	65	101	45	38	48	85	84	4	24	10	152	25	42	79
95th Queue (ft)	127	198	128	87	101	163	165	21	57	33	248	60	74	141
Link Distance (ft)		671	671			1058	1058				1221			1160
Upstream Blk Time (%)														
Queuing Penalty (veh)														

Storage Bay Dist (ft)	400		400	550			550	500	500		500	500
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 26: Crane Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L	T	R	L	T	R	R
Maximum Queue (ft)	484	471	219	225	225	60	351	346	377	377	104	84	99	176	154	160	262	261
Average Queue (ft)	299	303	116	131	110	12	169	219	237	254	35	22	34	73	62	66	132	145
95th Queue (ft)	504	505	192	206	195	34	284	317	342	359	77	61	81	141	128	133	220	226
Link Distance (ft)		1598	1598	1598	1598			1342	1342	1342			914			2754	2754	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	750					630	930				630	150		300	275			275
Storage Blk Time (%)	0	0															0	0
Queuing Penalty (veh)	0	0															0	1

Intersection: 27: Albers Rd & NCC

Movement	EB	EB	EB	EB	EB	B188	B188	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B138	B138
Directions Served	L	L	T	T	R	T	T	L	L	T	T	R	L	T	T	R	L	T	T	R	R	T	T
Maximum Queue (ft)	390	387	156	156	47	25	25	174	182	215	221	54	76	219	223	177	229	577	543	187	224	132	138
Average Queue (ft)	216	213	61	62	4	1	1	84	79	122	126	10	19	108	119	62	52	233	204	116	136	74	99
95th Queue (ft)	356	351	126	133	24	25	25	151	148	197	200	33	55	199	214	132	139	460	436	175	202	151	168
Link Distance (ft)		1587	1587	1587		1342	1342			4561	4561			2123	2123			2192	2192			86	86
Upstream Blk Time (%)																		0	0			4	16
Queuing Penalty (veh)																		0	0			0	0
Storage Bay Dist (ft)	750				750			720	720			670	200			300	200			500	500		
Storage Blk Time (%)														1			0	11					
Queuing Penalty (veh)														0			2	6					

Intersection: 28: STERNS & NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	232	121	125	50	65	140	138	50	87	53	72	129
Average Queue (ft)	111	34	52	10	16	74	72	11	27	13	24	58
95th Queue (ft)	190	86	102	34	46	126	124	36	63	39	59	101

Link Distance (ft)		1994	1994			2784	2784		239		629			
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	870			570	570			570		100		300		
Storage Blk Time (%)									0					
Queuing Penalty (veh)									0					

Intersection: 29: NCC & SR 120/108

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	115	172	63	6
Average Queue (ft)	43	43	10	0
95th Queue (ft)	87	118	39	6
Link Distance (ft)	2046	1149	1553	1553
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	89	112	83	78	128	142	159	166	70	96	179	126	141	60
Average Queue (ft)	34	47	31	24	60	51	69	82	15	37	79	45	61	13
95th Queue (ft)	75	91	70	56	110	113	130	147	48	79	144	95	119	40
Link Distance (ft)		882		1222		1038	1038	1038			2422	2422	2422	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	300		300		300				300	300				300
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R

Maximum Queue (ft)	200	186	283	364	355	658	585	241	223	237	254	262	72
Average Queue (ft)	92	61	132	175	56	359	318	53	120	131	133	147	22
95th Queue (ft)	163	127	238	319	179	551	501	146	198	206	219	231	58
Link Distance (ft)		430		638		834	834				757	757	757
Upstream Blk Time (%)						0	0						
Queuing Penalty (veh)						0	0						
Storage Bay Dist (ft)	300		300		300			400	450	450			
Storage Blk Time (%)			0	3		14	2						
Queuing Penalty (veh)			0	5		7	3						

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	80	83	120	75	108	195	194	74	107	102	128	57
Average Queue (ft)	30	29	55	23	36	87	98	25	36	35	51	15
95th Queue (ft)	65	62	102	56	84	164	172	59	79	82	104	43
Link Distance (ft)		1233		2041		953	953			1350	1350	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	140	84	82	124	92	196	208	35	146	122	128	49
Average Queue (ft)	59	30	31	52	27	79	90	3	45	48	57	6
95th Queue (ft)	110	67	67	99	65	150	175	17	102	101	109	27
Link Distance (ft)		747		1093		1259	1259			902	902	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	122	93	111	95	148	146	264	68	140	195	205	74
Average Queue (ft)	49	41	40	40	65	47	111	24	62	87	101	23
95th Queue (ft)	96	78	89	77	118	101	207	56	117	162	171	55
Link Distance (ft)		636		496		370	370			1357	1357	1357
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			
Storage Blk Time (%)							0					
Queuing Penalty (veh)							0					

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	140	141	277	299	151	162	149
Average Queue (ft)	66	60	141	113	71	57	73
95th Queue (ft)	120	108	238	211	126	127	130
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)				0			
Queuing Penalty (veh)				0			
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Davis & Claribel Realigned (N)

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	69	72	26	4	29	2
Average Queue (ft)	22	25	2	0	2	0
95th Queue (ft)	56	57	15	4	13	2
Link Distance (ft)	662	702		778		1110
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			50		50	
Storage Blk Time (%)			0	0		

Queuing Penalty (veh)	0	0

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	142	105	276	144	226	277	113	179	218
Average Queue (ft)	63	41	152	52	106	132	40	75	105
95th Queue (ft)	121	80	243	108	200	231	86	141	187
Link Distance (ft)		1110	417		1217	1217		1028	1028
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	NB	SB	SB	SB	SB	B501	B501
Directions Served	L	R	T	T	R	L	L	T	T	T	T
Maximum Queue (ft)	177	176	554	826	364	399	412	243	221	58	15
Average Queue (ft)	74	79	163	289	94	225	233	108	113	2	1
95th Queue (ft)	138	140	392	581	263	449	460	204	189	51	9
Link Distance (ft)	437		1878	1878				1205	1205	726	726
Upstream Blk Time (%)			0	0							
Queuing Penalty (veh)			0	0							
Storage Bay Dist (ft)		300			300	890	890				
Storage Blk Time (%)				6							
Queuing Penalty (veh)				15							

Intersection: 39: STERNS

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	100	110	63	15	66	12
Average Queue (ft)	49	46	12	1	14	0
95th Queue (ft)	84	84	44	7	47	9
Link Distance (ft)	660	1331		629		945
Upstream Blk Time (%)						

Queuing Penalty (veh)								
Storage Bay Dist (ft)			200		200			
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 40: NCC

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	TR	LT	TR	LT	TR
Maximum Queue (ft)	77	26	64	3	53	53	49	44
Average Queue (ft)	12	1	7	0	12	7	12	5
95th Queue (ft)	51	13	33	3	40	33	41	26
Link Distance (ft)	3082	3082	3429	3429	651	651	937	937
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 56:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 57:

Movement	B299	B299
Directions Served	T	
Maximum Queue (ft)	238	178
Average Queue (ft)	66	25

95th Queue (ft)	202	102
Link Distance (ft)	377	377
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 58:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 62: NCC SPUI

Movement	B129
Directions Served	T
Maximum Queue (ft)	45
Average Queue (ft)	2
95th Queue (ft)	46
Link Distance (ft)	502
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 63:

Movement	EB	EB

Directions Served	T	T
Maximum Queue (ft)	764	733
Average Queue (ft)	36	35
95th Queue (ft)	531	516
Link Distance (ft)	2590	2590
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 74: Bend

Movement	NB
Directions Served	T
Maximum Queue (ft)	51
Average Queue (ft)	2
95th Queue (ft)	52
Link Distance (ft)	414
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 77:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 81:

Movement	EB
Directions Served	T
Maximum Queue (ft)	3
Average Queue (ft)	0
95th Queue (ft)	3
Link Distance (ft)	2256
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 84: NCC SPUI

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 90: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	317	37
Average Queue (ft)	19	1
95th Queue (ft)	164	34
Link Distance (ft)	586	586
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		

Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 101:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 117: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 118:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)

Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 122: NCC

Movement	WB	B155	B155	B155	B72
Directions Served	T	T	T		T
Maximum Queue (ft)	119	241	268	92	67
Average Queue (ft)	4	21	30	7	2
95th Queue (ft)	121	130	158	57	68
Link Distance (ft)	1114	1066	1066	1066	671
Upstream Blk Time (%)					0
Queuing Penalty (veh)					0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 125: NCC SPUI & NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 127:

Movement	EB	EB
Directions Served	T	T
Maximum Queue (ft)	6	16

Average Queue (ft)	0	1
95th Queue (ft)	6	14
Link Distance (ft)	2004	2004
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 132: Bend

Movement	SW	SW
Directions Served	T	T
Maximum Queue (ft)	162	176
Average Queue (ft)	3	3
95th Queue (ft)	78	92
Link Distance (ft)	1598	1598
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 146:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 154: Bend

Movement	EB	EB	EB
Directions Served	T	T	
Maximum Queue (ft)	18	50	20
Average Queue (ft)	1	2	0
95th Queue (ft)	12	31	9
Link Distance (ft)	1589	1589	1589
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 157: Crane Rd

Movement	EB	WB
Directions Served	R	R
Maximum Queue (ft)	69	82
Average Queue (ft)	27	28
95th Queue (ft)	55	63
Link Distance (ft)	117	124
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 186: Bend

Movement	EB	EB
Directions Served	T	
Maximum Queue (ft)	42	40
Average Queue (ft)	2	2
95th Queue (ft)	18	18
Link Distance (ft)	437	437
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 193:

Movement	B55
Directions Served	T
Maximum Queue (ft)	6
Average Queue (ft)	0
95th Queue (ft)	6
Link Distance (ft)	1397
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 206:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 211:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	

Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary
Network wide Queuing Penalty: 4457

SimTraffic Performance Report
2042 Alternative 2A AM Peak Hour
9/3/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.1	0.2	0.9	0	0	0	2.3	0.5	0.6	2.2	0.3	0.2	0.3
Total Del/Veh (s)	50.2	35.4	12.5	54.2	35.4	16.1	51.7	30.7	15.3	46.2	44.5	26.2	36.2
Vehicles Exited	66	1152	146	217	1662	69	216	80	41	27	87	73	3836
Hourly Exit Rate	66	1152	146	217	1662	69	216	80	41	27	87	73	3836
Input Volume	70	1150	140	220	1670	70	220	80	40	30	90	70	3851
% of Volume	94	100	104	99	100	98	98	100	103	91	97	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	58.5	35.9	31.3	38.7	22.6	5.1	32.3	24	2.5	39.2	30.4	18.4	28.2
Vehicles Exited	49	718	462	605	1725	52	159	86	170	39	110	60	4235
Hourly Exit Rate	49	718	462	605	1725	52	159	86	170	39	110	60	4235
Input Volume	50	711	460	610	1740	50	160	90	170	40	110	60	4250
% of Volume	98	101	100	99	99	104	100	96	100	98	100	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.5	0.5	0.5	0	0.2	2.2	0	0	0	0.3	0.2	0.2	0.3
Total Del/Veh (s)	65.2	31.3	21.5	126	84.2	51.1	58.3	37.9	30.1	66.1	52.9	50.2	54.1
Vehicles Exited	193	303	70	14	496	112	39	472	18	80	581	248	2626
Hourly Exit Rate	193	303	70	14	496	112	39	472	18	80	581	248	2626
Input Volume	200	300	70	20	620	150	40	470	20	80	580	240	2792
% of Volume	97	101	100	69	80	75	98	100	89	100	100	103	94
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	18.9	5.9	9.5	0.3	14.6	12.3
Vehicles Exited	200	14	514	109	668	1505
Hourly Exit Rate	200	14	514	109	668	1505
Input Volume	250	20	510	110	671	1561
% of Volume	80	69	101	99	100	96
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	202	198	0	133
Total Del/Veh (s)	14	6.9	312	373	4.6	236
Vehicles Exited	380	21	194	622	109	1326
Hourly Exit Rate	380	21	194	622	109	1326
Input Volume	380	20	250	790	110	1551
% of Volume	100	104	78	79	99	85
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	36	114	0	150

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	19.6	0.2	21.3	22.8	0.5	21.1	20.5	14.3	6	16.5	15.6	9.6	16.4
Vehicles Exited	38	1	161	289	2	281	124	429	142	51	526	279	2323
Hourly Exit Rate	38	1	161	289	2	281	124	429	142	51	526	279	2323
Input Volume	40	1	150	290	1	270	130	430	140	50	530	280	2312
% of Volume	96	133	108	100	267	104	95	100	101	102	99	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.2	15.1	15.5	15.9	0.3	0.1	0.2	2.7	0.1	0.2	6.4
Total Del/Veh (s)	356	47.4	12.5	310	307	278	230	33.4	14.9	98.4	32.4	20.7	168
Vehicles Exited	293	915	244	406	1500	401	292	914	236	159	613	164	6137
Hourly Exit Rate	293	915	244	406	1500	401	292	914	236	159	613	164	6137
Input Volume	320	910	240	450	1660	450	310	930	240	160	610	170	6450
% of Volume	92	101	102	90	90	89	94	98	98	100	101	96	95
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	12	44	10	0	0	0	0	0	0	66

8: Coffee Rd Performance by movement

Movement	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWT	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0		0	0
Total Del/Veh (s)	30.1	8.9	6.1	32	22.3	47.8	27.5	15.9	30.4		34.1	27.6
Vehicles Exited	421	198	252	29	286	458	77	95	348	0	51	2215
Hourly Exit Rate	421	198	252	29	286	458	77	95	348	0	51	2215
Input Volume	420	201	260	30	290	450	80	100	330	0	50	2210
% of Volume	100	99	97	97	99	102	96	95	106		102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.3	0.1	2.4	0.8	0.1	0.1	2.6	0.2	0.2	2.6	0.2	2.7	0.8
Total Del/Veh (s)	60.5	31.6	11	139	144	122	68.8	26.8	16.8	48.4	49.2	91.9	83.4
Vehicles Exited	184	773	248	174	1577	111	456	416	147	55	439	447	5027
Hourly Exit Rate	184	773	248	174	1577	111	456	416	147	55	439	447	5027
Input Volume	190	770	250	180	1620	120	460	410	150	60	440	440	5090
% of Volume	97	100	99	97	97	92	99	101	98	92	100	102	99
Denied Entry Before	0	0	1	0	0	0	0	0	0	0	0	0	1
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.5	0.1	0.1	0.3	0.2	0.2	1.6	0.2	0.1	1.7	0.4	1.7	0.4
Total Del/Veh (s)	45.5	17.8	10.2	52.2	19.1	15.3	42.1	27	29.7	45.5	34.1	10.6	26

Vehicles Exited	47	414	82	206	682	52	139	59	107	72	114	98	2072
Hourly Exit Rate	47	414	82	206	682	52	139	59	107	72	114	98	2072
Input Volume	50	410	80	200	680	50	140	60	110	70	110	100	2060
% of Volume	94	101	102	103	100	104	99	98	97	102	104	98	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.4	0.2	0.4	0.3	3.2	0	0	0	0.3	0.1	0.1	0.4
Total Del/Veh (s)	28.6	40.8	11.6	33.2	41.8	3.8	43.4	21.7	6.6	43.3	27.4	24	25.3
Vehicles Exited	87	28	82	459	19	69	49	289	237	69	623	50	2061
Hourly Exit Rate	87	28	82	459	19	69	49	289	237	69	623	50	2061
Input Volume	90	30	80	450	20	70	50	290	240	70	620	50	2061
% of Volume	97	94	102	102	94	98	98	100	99	98	100	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.2	2.8	3	0.1	3.1	0.4	0.1	0.2	6.9	4.4	6.6	2
Total Del/Veh (s)	60.7	31.5	3.3	59.1	67.5	8.7	68.4	15.7	7.9	60.4	63.4	41.1	49.6
Vehicles Exited	405	276	297	28	541	31	870	385	39	26	556	518	3972
Hourly Exit Rate	405	276	297	28	541	31	870	385	39	26	556	518	3972
Input Volume	400	280	300	30	550	30	870	380	40	30	550	520	3979
% of Volume	101	99	99	94	98	104	100	101	98	87	101	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.5	0.5	0.5	3.5	0.5	0.5	2	0.8	2.1	0.8
Total Del/Veh (s)	44.8	30.3	23.9	81.2	58.6	33.5	31.6	43	34.3	36.2	37.7	10.5	38.7
Vehicles Exited	129	293	38	38	326	235	69	256	53	181	197	162	1977
Hourly Exit Rate	129	293	38	38	326	235	69	256	53	181	197	162	1977
Input Volume	130	300	40	40	330	230	70	250	50	180	200	160	1980

% of Volume	99	98	96	96	99	102	98	102	106	101	99	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.9	3.7	3.9	0.4	3.9	0	0	0	0	0	0	0.9
Total Del/Veh (s)	26.4	16.8	6.3	29.8	19.1	3.3	28.5	15.2	3.8	30.1	15.4	6.4	15.5
Vehicles Exited	36	40	208	28	77	51	135	364	31	21	439	20	1450
Hourly Exit Rate	36	40	208	28	77	51	135	364	31	21	439	20	1450
Input Volume	40	40	210	30	80	50	140	360	30	20	440	20	1460
% of Volume	91	101	99	94	96	102	96	101	104	104	100	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.8	3.5	0.6
Total Del/Veh (s)	14.9	7.4	45	5.9	16.8	6.3	15.7
Vehicles Exited	306	156	290	492	162	254	1660
Hourly Exit Rate	306	156	290	492	162	254	1660
Input Volume	300	160	290	480	160	250	1640
% of Volume	102	98	100	102	101	101	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	31.1	17.8	4.9	50.3	32.4	7.9	51.7	37	6.3	49.2	49.3	20.8	27.5
Vehicles Exited	407	1100	266	214	939	71	195	282	179	30	260	495	4438
Hourly Exit Rate	407	1100	266	214	939	71	195	282	179	30	260	495	4438
Input Volume	400	1090	260	210	930	70	200	281	180	30	261	490	4402
% of Volume	102	101	102	102	101	101	98	100	99	101	100	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	2	0.5	0.3	0.3	0.7	3.7	1.3
Total Del/Veh (s)	15.3	6	17.4	8.4	13.5	6.1	10.7
Vehicles Exited	139	261	215	80	98	212	1005
Hourly Exit Rate	139	261	215	80	98	212	1005
Input Volume	140	250	220	80	100	210	1000
% of Volume	99	104	98	100	98	101	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

18: Bentley & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	3.8	0.5	3.8	3.8	0.3	4	0.3
Total Del/Veh (s)	42.3	17.4	5.1	43.4	33.3	6.9	41.1	21.9	9.8	39.1	32.5	10.9	26.3
Vehicles Exited	164	1051	81	30	1070	22	103	81	49	19	102	31	2803
Hourly Exit Rate	164	1051	81	30	1070	22	103	81	49	19	102	31	2803
Input Volume	170	1050	80	30	1080	20	100	80	50	20	100	30	2810
% of Volume	96	100	101	101	99	109	103	101	98	94	102	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.2	0.2	0.2	3.7	0.5	0.5	2.1	0.6	2	0.9
Total Del/Veh (s)	25.4	12.8	6.3	25.6	13.5	5.1	17.7	12.9	6.2	18.8	13.5	4.8	13.4
Vehicles Exited	79	322	64	64	143	82	102	72	41	125	80	147	1321
Hourly Exit Rate	79	322	64	64	143	82	102	72	41	125	80	147	1321
Input Volume	80	330	60	60	140	80	110	70	40	130	80	150	1331
% of Volume	98	98	107	107	102	102	93	102	103	96	100	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.5	0.5	0.5	0.3	0.1	0.1	2	0.7	1.8	0.2	0.2	0.2	0.4
Total Del/Veh (s)	68.2	41	32.2	52.6	37.6	11.2	41	40.7	7.7	42.5	36.9	27.1	35.9
Vehicles Exited	85	329	118	97	174	354	110	356	83	364	509	23	2602
Hourly Exit Rate	85	329	118	97	174	354	110	356	83	364	509	23	2602
Input Volume	80	340	120	100	180	350	110	360	80	360	510	20	2611
% of Volume	106	97	98	97	97	101	100	99	103	101	100	114	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.7	0.1	0.2	0.3	0.1	0.1	2	0.7	2	0.3	0.3	0.3	0.7
Total Del/Veh (s)	35.5	21.9	13.4	36	16.9	10.1	40.3	22.9	7.4	40.6	28.9	9.9	24.2
Vehicles Exited	69	320	158	169	284	52	278	117	105	48	160	112	1872
Hourly Exit Rate	69	320	158	169	284	52	278	117	105	48	160	112	1872
Input Volume	70	320	160	170	290	50	280	120	100	50	160	110	1879
% of Volume	98	100	99	99	98	104	99	98	105	96	100	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.3	0.2	3	0.3	3	0	0	0	2.5	0.3	0.4	0.6
Total Del/Veh (s)	57	44.3	15	46.1	36.6	13.4	64.6	28.5	9.1	53.3	40.5	38.4	36.4
Vehicles Exited	106	47	72	226	286	158	126	871	81	107	920	100	3100
Hourly Exit Rate	106	47	72	226	286	158	126	871	81	107	920	100	3100
Input Volume	110	50	70	220	280	160	130	860	80	110	930	100	3101
% of Volume	96	94	102	103	102	99	97	101	101	97	99	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.3	4	2.7	0.2	0.2	3	0.2	0.3	3	0.2	3.1	0.5
Total Del/Veh (s)	23.4	25	4.7	21.9	22.3	5.1	24.2	9.2	4.3	23.1	8.1	3.6	9.6

Vehicles Exited	19	21	33	42	20	32	26	596	97	28	645	33	1592
Hourly Exit Rate	19	21	33	42	20	32	26	596	97	28	645	33	1592
Input Volume	20	20	30	40	20	30	30	600	100	30	650	30	1599
% of Volume	94	104	111	106	99	108	87	99	97	94	99	111	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	20.5	0.3	25.6	23.3	24.1	29.2	10.4	10.4	29.4	9.9	11.8	14.1
Vehicles Exited	86	1	57	227	62	80	424	465	94	467	602	2565
Hourly Exit Rate	86	1	57	227	62	80	424	465	94	467	602	2565
Input Volume	90	0	60	220	60	80	430	460	90	462	600	2551
% of Volume	96	400	95	103	103	100	99	101	105	101	100	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

25: NCC SPUI & Roselle Performance by movement

Movement	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWT	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	21.9	12.2	8.3	27.2	16.3	8.6	19.3	16.3	23	0	21.3	16.1
Vehicles Exited	261	443	360	127	491	58	22	139	209	1	67	2178
Hourly Exit Rate	261	443	360	127	491	58	22	139	209	1	67	2178
Input Volume	260	440	360	120	500	60	20	140	210	0	70	2181
% of Volume	100	101	100	106	98	97	109	99	100	400	95	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

26: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	859	859
Hourly Exit Rate	859	859
Input Volume	870	870

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

27: NCC & Albers Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.6	0.7	0.6	0	0	0	0.1
Total Del/Veh (s)	64.3	29.8	6.9	44.5	47.9	11.5	60.8	33.4	12.4	69.1	42.2	13.4	37
Vehicles Exited	681	387	53	263	427	28	18	363	303	49	494	679	3745
Hourly Exit Rate	681	387	53	263	427	28	18	363	303	49	494	679	3745
Input Volume	680	391	50	270	430	30	20	360	290	50	490	680	3742
% of Volume	100	99	106	97	99	94	89	101	104	98	101	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.2	0.1	0.1	0	0	0	0
Total Del/Veh (s)	8.3	10.2	5.8	7	8.9	4.4	5.9	7	3.2	5.4	6.1	5	7.9
Vehicles Exited	345	346	52	52	421	20	47	10	52	20	10	250	1625
Hourly Exit Rate	345	346	52	52	421	20	47	10	52	20	10	250	1625
Input Volume	340	341	50	50	430	20	50	10	50	20	10	250	1622
% of Volume	101	101	104	104	98	99	94	98	104	99	98	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.1	0	0	0	0	0	0	0.2	0.2	0.2	0
Total Del/Veh (s)	8.2	11.7	1.7	8.9	9.4	3.5	2.7	5.4	5.7	10.8	11.6	5.9	8.4
Vehicles Exited	29	253	29	431	516	9	20	13	383	20	30	113	1846
Hourly Exit Rate	29	253	29	431	516	9	20	13	383	20	30	113	1846
Input Volume	30	260	30	440	520	10	20	10	380	20	30	110	1860
% of Volume	97	97	97	98	99	88	99	124	101	99	101	103	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.3	0.2	4.1	0.2	0.2	0	0	0	1.4	0.2	1.4	0.3
Total Del/Veh (s)	18.8	17.5	5.3	17.9	18.1	3.9	18	6.2	3.7	19.4	7.4	3.5	8
Vehicles Exited	34	9	41	20	10	21	99	625	22	21	797	21	1720
Hourly Exit Rate	34	9	41	20	10	21	99	625	22	21	797	21	1720
Input Volume	30	10	40	20	10	20	100	620	20	20	800	20	1711
% of Volume	114	88	103	99	98	104	99	101	109	104	100	104	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.2	3.6	0.7	0.6	3.1	0.3	3.1	0	0	0	0.7
Total Del/Veh (s)	25.5	30	9.4	22.7	22.9	8.3	27	12.8	3.7	23	9.7	1.8	12.2
Vehicles Exited	28	12	31	126	10	195	40	471	102	139	780	60	1994
Hourly Exit Rate	28	12	31	126	10	195	40	471	102	139	780	60	1994
Input Volume	30	10	30	120	10	190	40	480	100	140	770	60	1980
% of Volume	94	117	104	105	98	102	101	98	102	99	101	100	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4	0.2	0.3	0.2	0.2	0.2	0	0	0	3	0.3	3.1	0.6
Total Del/Veh (s)	15.9	12.7	6.1	17.3	12.5	3.6	21.9	7.5	3.4	20.2	10.2	4.4	10.4
Vehicles Exited	46	12	49	102	11	51	50	223	51	46	624	53	1318
Hourly Exit Rate	46	12	49	102	11	51	50	223	51	46	624	53	1318
Input Volume	50	10	50	100	10	50	50	230	50	50	620	50	1320
% of Volume	92	117	98	102	107	102	100	97	102	92	101	106	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.4	0.4	3.9	0.3	0.3	3	0.4	2.9	0	0	0	0.6
Total Del/Veh (s)	21.7	16.1	5.7	19.5	18.9	7.5	24.4	12.2	4.5	22.7	9.4	4.5	12
Vehicles Exited	95	12	53	51	9	105	50	667	49	104	524	103	1822
Hourly Exit Rate	95	12	53	51	9	105	50	667	49	104	524	103	1822
Input Volume	100	10	50	50	10	100	50	680	50	100	520	100	1820
% of Volume	95	117	106	102	88	105	100	98	98	104	101	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.4	0.5	3.8	0.5	0.5	2.8	0.6	3	0	0	0	0.8
Total Del/Veh (s)	21.1	15.1	7.2	19.5	16.5	8.9	25.5	10.7	2.8	26.4	10.1	2.9	11.6
Vehicles Exited	120	11	128	99	9	102	39	748	52	48	656	42	2054
Hourly Exit Rate	120	11	128	99	9	102	39	748	52	48	656	42	2054
Input Volume	120	10	120	100	10	100	40	750	50	50	651	40	2040
% of Volume	100	107	107	99	88	102	98	100	104	96	101	106	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	1.9	0.4	0.3	0.4	0	0	0.2
Total Del/Veh (s)	19.3	11	10.9	6.5	22.9	8	10.1
Vehicles Exited	48	283	778	51	46	796	2002
Hourly Exit Rate	48	283	778	51	46	796	2002
Input Volume	50	280	780	50	50	801	2010
% of Volume	96	101	100	102	92	99	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Davis & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	4	0.2	0.2	0	0	0	0.2
Total Del/Veh (s)	5.5	6.6	3	5.7	6.8	2.9	2.3	0.3	0.1	2.5	0.8	0.6	1.5

Vehicles Exited	9	11	10	8	11	11	10	97	13	10	135	11	336
Hourly Exit Rate	9	11	10	8	11	11	10	97	13	10	135	11	336
Input Volume	10	10	10	10	10	10	10	100	10	10	140	10	342
% of Volume	88	107	98	78	107	107	98	97	127	98	96	107	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.2	0.2	0.2	0	0	0	3	0.3	0.4	0.2
Total Del/Veh (s)	19.4	18.3	6.4	18.7	21	9.8	29.1	12.1	11.3	24	11	7.9	12.6
Vehicles Exited	66	11	39	123	11	21	31	492	234	38	624	113	1803
Hourly Exit Rate	66	11	39	123	11	21	31	492	234	38	624	113	1803
Input Volume	70	10	40	120	10	20	30	491	230	40	620	120	1801
% of Volume	94	107	98	102	107	104	104	100	102	96	101	94	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.3	1.4	0	0	0.2
Total Del/Veh (s)	16.7	6.2	7.9	4.2	16.6	6	7.7
Vehicles Exited	78	79	581	81	76	661	1556
Hourly Exit Rate	78	79	581	81	76	661	1556
Input Volume	80	80	580	80	80	650	1552
% of Volume	97	98	100	101	95	102	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0.1	0.1	3.7	0.6	1.3
Total Del/Veh (s)	10.6	1	3.5	11.9	4.4	8.8	2.9	6
Vehicles Exited	38	2	334	20	41	237	21	693
Hourly Exit Rate	38	2	334	20	41	237	21	693
Input Volume	40	1	330	20	40	240	20	691

% of Volume	96	200	101	99	103	99	104	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

40: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	681	681
Hourly Exit Rate	681	681
Input Volume	670	670
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	470	470
Hourly Exit Rate	470	470
Input Volume	470	470
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.9	7.9
Vehicles Exited	776	776
Hourly Exit Rate	776	776
Input Volume	820	820
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.5	10.5
Vehicles Exited	798	798
Hourly Exit Rate	798	798
Input Volume	790	790
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	1608	1608
Hourly Exit Rate	1608	1608
Input Volume	1700	1700
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	159	159
Hourly Exit Rate	159	159
Input Volume	160	160
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	237	237
Hourly Exit Rate	237	237
Input Volume	240	240
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	488	488
Hourly Exit Rate	488	488
Input Volume	490	490
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	235	235
Hourly Exit Rate	235	235
Input Volume	240	240
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9

Vehicles Exited	233	233
Hourly Exit Rate	233	233
Input Volume	231	231
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	208	208
Hourly Exit Rate	208	208
Input Volume	200	200
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	11.1	11.1
Vehicles Exited	1954	1954
Hourly Exit Rate	1954	1954
Input Volume	2140	2140
% of Volume	91	91
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.5	6.5
Vehicles Exited	1133	1133
Hourly Exit Rate	1133	1133
Input Volume	1130	1130

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.3	5.3
Vehicles Exited	880	880
Hourly Exit Rate	880	880
Input Volume	880	880
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	2.7	1.2	2
Vehicles Exited	1309	1224	2533
Hourly Exit Rate	1309	1224	2533
Input Volume	1300	1210	2510
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	2547	2547
Hourly Exit Rate	2547	2547
Input Volume	2550	2550
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

56: Performance by movement

Movement	NET	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	0.7	0.8
Vehicles Exited	728	199	927
Hourly Exit Rate	728	199	927
Input Volume	730	190	921
% of Volume	100	105	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

57: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	0.4	1.3
Vehicles Exited	729	193	922
Hourly Exit Rate	729	193	922
Input Volume	730	190	920
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

58: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	1.4	1.5
Vehicles Exited	1974	572	2546
Hourly Exit Rate	1974	572	2546
Input Volume	1991	560	2550
% of Volume	99	102	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	92	92
Hourly Exit Rate	92	92
Input Volume	90	90
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	627	627
Hourly Exit Rate	627	627
Input Volume	620	620
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6	6
Vehicles Exited	488	488
Hourly Exit Rate	488	488
Input Volume	490	490
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

62: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.6	4.5	2.9

Vehicles Exited	1282	160	1442
Hourly Exit Rate	1282	160	1442
Input Volume	1270	160	1430
% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

63: Performance by movement

Movement	EBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	7.2	0.3	0.5	2.4
Vehicles Exited	928	1	2376	3305
Hourly Exit Rate	928	1	2376	3305
Input Volume	920	1	2400	3321
% of Volume	101	100	99	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.2	6.2
Vehicles Exited	528	528
Hourly Exit Rate	528	528
Input Volume	530	530
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	445	445
Hourly Exit Rate	445	445
Input Volume	450	450

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	343	343
Hourly Exit Rate	343	343
Input Volume	350	350
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	446	446
Hourly Exit Rate	446	446
Input Volume	450	450
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	188	188
Hourly Exit Rate	188	188
Input Volume	190	190
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	216	216
Hourly Exit Rate	216	216
Input Volume	221	221
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	451	451
Hourly Exit Rate	451	451
Input Volume	450	450
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	1929	1929
Hourly Exit Rate	1929	1929
Input Volume	1940	1940
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

72: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	1770	1770
Hourly Exit Rate	1770	1770
Input Volume	1750	1750
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.4	0	0.2
Total Del/Veh (s)	2.4	2.6	2.5
Vehicles Exited	465	392	857
Hourly Exit Rate	465	392	857
Input Volume	470	400	870
% of Volume	99	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.4	0.2
Total Del/Veh (s)	3.5	0.5	1.9
Vehicles Exited	452	481	933
Hourly Exit Rate	452	481	933
Input Volume	450	480	930
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

75: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.5	3.5	4.5

Vehicles Exited	1122	1124	2246
Hourly Exit Rate	1122	1124	2246
Input Volume	1120	1130	2250
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.3	8.3
Vehicles Exited	1951	1951
Hourly Exit Rate	1951	1951
Input Volume	1960	1960
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

77: Performance by movement

Movement	WBT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.7	2.2	2.6
Vehicles Exited	1346	320	1666
Hourly Exit Rate	1346	320	1666
Input Volume	1340	320	1660
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	52	52
Hourly Exit Rate	52	52
Input Volume	51	51

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	78	78
Hourly Exit Rate	78	78
Input Volume	80	80
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	145	145
Hourly Exit Rate	145	145
Input Volume	150	150
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	2.5		2.1	2.4
Vehicles Exited	1282	0	487	1769
Hourly Exit Rate	1282	0	487	1769
Input Volume	1270	0	480	1751
% of Volume	101	0	101	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	118	118
Hourly Exit Rate	118	118
Input Volume	120	120
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	488	488
Hourly Exit Rate	488	488
Input Volume	500	500
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.9	3.3	2.1
Vehicles Exited	1351	278	1629
Hourly Exit Rate	1351	278	1629
Input Volume	1341	280	1621
% of Volume	101	99	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.4	0	0.2
Total Del/Veh (s)	0.6	2.4	1.6
Vehicles Exited	461	654	1115
Hourly Exit Rate	461	654	1115
Input Volume	460	640	1100
% of Volume	100	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.7	0	0.4
Total Del/Veh (s)	1	3.6	2.1
Vehicles Exited	783	560	1343
Hourly Exit Rate	783	560	1343
Input Volume	770	550	1321
% of Volume	102	102	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	392	392
Hourly Exit Rate	392	392
Input Volume	400	400
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9

Vehicles Exited	722	722
Hourly Exit Rate	722	722
Input Volume	720	720
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	645	645
Hourly Exit Rate	645	645
Input Volume	650	650
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.5	0	0.2
Total Del/Veh (s)	2.3	8.3	5.8
Vehicles Exited	623	868	1491
Hourly Exit Rate	623	868	1491
Input Volume	620	920	1540
% of Volume	100	94	97
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.8	10.2	7.4
Vehicles Exited	1294	1204	2498
Hourly Exit Rate	1294	1204	2498
Input Volume	1300	1210	2510

% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

92: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.9	4	6
Vehicles Exited	1123	1128	2251
Hourly Exit Rate	1123	1128	2251
Input Volume	1120	1130	2250
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	619	619
Hourly Exit Rate	619	619
Input Volume	610	610
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	214	214
Hourly Exit Rate	214	214
Input Volume	210	210
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	268	268
Hourly Exit Rate	268	268
Input Volume	270	270
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

96: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.2	7.2
Vehicles Exited	1309	1309
Hourly Exit Rate	1309	1309
Input Volume	1310	1310
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	358	358
Hourly Exit Rate	358	358
Input Volume	350	350
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	673	673
Hourly Exit Rate	673	673
Input Volume	680	680
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	232	232
Hourly Exit Rate	232	232
Input Volume	241	241
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

100: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	1630	1630
Hourly Exit Rate	1630	1630
Input Volume	1620	1620
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.4	1.8	2.3

Vehicles Exited	1973	404	2377
Hourly Exit Rate	1973	404	2377
Input Volume	1990	411	2401
% of Volume	99	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	870	870
Hourly Exit Rate	870	870
Input Volume	920	920
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

103: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	1664	1664
Hourly Exit Rate	1664	1664
Input Volume	1660	1660
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	941	941
Hourly Exit Rate	941	941
Input Volume	920	920

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	712	712
Hourly Exit Rate	712	712
Input Volume	720	720
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.6	6.6
Vehicles Exited	2476	2476
Hourly Exit Rate	2476	2476
Input Volume	2520	2520
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	918	918
Hourly Exit Rate	918	918
Input Volume	920	920
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	400	400
Hourly Exit Rate	400	400
Input Volume	390	390
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

109: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.3	1	1.1	1.3
Vehicles Exited	750	1	281	1032
Hourly Exit Rate	750	1	281	1032
Input Volume	740	0	290	1030
% of Volume	101	400	97	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.2	8.2
Vehicles Exited	974	974
Hourly Exit Rate	974	974
Input Volume	980	980
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	823	823
Hourly Exit Rate	823	823
Input Volume	810	810
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	555	555
Hourly Exit Rate	555	555
Input Volume	560	560
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	335	335
Hourly Exit Rate	335	335
Input Volume	340	340
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8

Vehicles Exited	579	579
Hourly Exit Rate	579	579
Input Volume	580	580
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	654	654
Hourly Exit Rate	654	654
Input Volume	640	640
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	596	596
Hourly Exit Rate	596	596
Input Volume	590	590
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

117: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	1	0.8
Vehicles Exited	1378	289	1667
Hourly Exit Rate	1378	289	1667
Input Volume	1380	280	1660

% of Volume	100	103	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

118: Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.2	2.2	2.2
Vehicles Exited	1382	684	2066
Hourly Exit Rate	1382	684	2066
Input Volume	1380	680	2060
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	722	722
Hourly Exit Rate	722	722
Input Volume	730	730
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.5	5.5
Vehicles Exited	309	309
Hourly Exit Rate	309	309
Input Volume	310	310
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

121: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	281	281
Hourly Exit Rate	281	281
Input Volume	280	280
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

122: NCC Performance by movement

Movement	WBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	3.3	0.9	1.5	2.4
Vehicles Exited	1630	1	1770	3401
Hourly Exit Rate	1630	1	1770	3401
Input Volume	1621	1	1750	3372
% of Volume	101	100	101	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.3	6.3
Vehicles Exited	515	515
Hourly Exit Rate	515	515
Input Volume	510	510
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

124: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	31	31
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

125: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.9	0.8	1.8
Vehicles Exited	885	143	1028
Hourly Exit Rate	885	143	1028
Input Volume	881	150	1031
% of Volume	100	95	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	1032	1032
Hourly Exit Rate	1032	1032
Input Volume	1030	1030
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

128: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.9	2.1	2

Vehicles Exited	886	559	1445
Hourly Exit Rate	886	559	1445
Input Volume	880	550	1430
% of Volume	101	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

129: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	841	841
Hourly Exit Rate	841	841
Input Volume	850	850
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	2066	2066
Hourly Exit Rate	2066	2066
Input Volume	2060	2060
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	SW	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	814	814
Hourly Exit Rate	814	814
Input Volume	810	810

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5	5.7	5.3
Vehicles Exited	1121	1123	2244
Hourly Exit Rate	1121	1123	2244
Input Volume	1120	1130	2250
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.3	4.3	4.8
Vehicles Exited	738	717	1455
Hourly Exit Rate	738	717	1455
Input Volume	730	730	1460
% of Volume	101	98	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

134: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	1309	1309
Hourly Exit Rate	1309	1309
Input Volume	1300	1300
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.8	5.8
Vehicles Exited	1262	1262
Hourly Exit Rate	1262	1262
Input Volume	1300	1300
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

136: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	6.1	0.4	3.3
Vehicles Exited	739	717	1456
Hourly Exit Rate	739	717	1456
Input Volume	730	730	1460
% of Volume	101	98	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

137: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1	1.6	1.3
Vehicles Exited	741	718	1459
Hourly Exit Rate	741	718	1459
Input Volume	730	730	1460
% of Volume	102	98	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

138: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	1445	1445
Hourly Exit Rate	1445	1445
Input Volume	1430	1430
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	777	777
Hourly Exit Rate	777	777
Input Volume	780	780
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

140: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.8	9.8
Vehicles Exited	784	784
Hourly Exit Rate	784	784
Input Volume	900	900
% of Volume	87	87
Denied Entry Before	0	0
Denied Entry After	0	0

141: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7

Vehicles Exited	60	60
Hourly Exit Rate	60	60
Input Volume	60	60
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

142: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.7	0.7
Vehicles Exited	353	353
Hourly Exit Rate	353	353
Input Volume	350	350
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	650	650
Hourly Exit Rate	650	650
Input Volume	650	650
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.3	0.2
Total Del/Veh (s)	4	0.9	2.2
Vehicles Exited	655	955	1610
Hourly Exit Rate	655	955	1610
Input Volume	660	970	1630

% of Volume	99	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	51	51
Hourly Exit Rate	51	51
Input Volume	50	50
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

146: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	656	656
Hourly Exit Rate	656	656
Input Volume	660	660
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

148: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	34	34
Hourly Exit Rate	34	34
Input Volume	31	31
% of Volume	111	111
Denied Entry Before	0	0
Denied Entry After	0	0

149: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1177	1177
Hourly Exit Rate	1177	1177
Input Volume	1180	1180
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	130	130
Hourly Exit Rate	130	130
Input Volume	130	130
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

151: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	154	154
Hourly Exit Rate	154	154
Input Volume	161	161
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

152: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	452	452
Hourly Exit Rate	452	452
Input Volume	450	450
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

153: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	0.9	0.1	0.5
Vehicles Exited	157	156	313
Hourly Exit Rate	157	156	313
Input Volume	160	160	321
% of Volume	98	97	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	9.6	3.3	6.5
Vehicles Exited	1306	1223	2529
Hourly Exit Rate	1306	1223	2529
Input Volume	1300	1210	2510
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	8.2	4.6

Vehicles Exited	1773	1629	3402
Hourly Exit Rate	1773	1629	3402
Input Volume	1750	1620	3370
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

157: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	219	219
Hourly Exit Rate	219	219
Input Volume	220	220
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

158: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.8	4.3	4
Vehicles Exited	738	715	1453
Hourly Exit Rate	738	715	1453
Input Volume	730	730	1460
% of Volume	101	98	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

159: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	1201	1201
Hourly Exit Rate	1201	1201
Input Volume	1210	1210

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

163: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	883	883
Hourly Exit Rate	883	883
Input Volume	870	870
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

164: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	107	107
Hourly Exit Rate	107	107
Input Volume	110	110
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

165: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	1.1	5.6	3.3
Vehicles Exited	1297	1202	2499
Hourly Exit Rate	1297	1202	2499
Input Volume	1300	1210	2510
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	115	115
Hourly Exit Rate	115	115
Input Volume	110	110
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	163	163
Hourly Exit Rate	163	163
Input Volume	160	160
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	163	163
Hourly Exit Rate	163	163
Input Volume	160	160
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

172: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	426	426
Hourly Exit Rate	426	426
Input Volume	430	430
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	90	90
Hourly Exit Rate	90	90
Input Volume	90	90
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	274	274
Hourly Exit Rate	274	274
Input Volume	279	279
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1

Vehicles Exited	97	97
Hourly Exit Rate	97	97
Input Volume	100	100
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

177: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	157	157
Hourly Exit Rate	157	157
Input Volume	160	160
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

178: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	114	114
Hourly Exit Rate	114	114
Input Volume	110	110
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

179: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	560	560
Hourly Exit Rate	560	560
Input Volume	550	550

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	112	112
Hourly Exit Rate	112	112
Input Volume	110	110
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	253	253
Hourly Exit Rate	253	253
Input Volume	250	250
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	319	319
Hourly Exit Rate	319	319
Input Volume	330	330
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	111	111
Hourly Exit Rate	111	111
Input Volume	110	110
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

185: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	737	737
Hourly Exit Rate	737	737
Input Volume	730	730
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

186: Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.1	1	1.1
Vehicles Exited	751	172	923
Hourly Exit Rate	751	172	923
Input Volume	741	180	921
% of Volume	101	96	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

187: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	2.8	1.8
Vehicles Exited	1669	400	2069
Hourly Exit Rate	1669	400	2069
Input Volume	1680	380	2060
% of Volume	99	105	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

189: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	878	878
Hourly Exit Rate	878	878
Input Volume	870	870
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

190: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	1032	1032
Hourly Exit Rate	1032	1032
Input Volume	1030	1030
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

192: Performance by movement

Movement	WBT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.2	0.3	1.5

Vehicles Exited	1668	876	2544
Hourly Exit Rate	1668	876	2544
Input Volume	1680	870	2550
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

193: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	877	877
Hourly Exit Rate	877	877
Input Volume	870	870
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

194: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	923	923
Hourly Exit Rate	923	923
Input Volume	920	920
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	1667	1667
Hourly Exit Rate	1667	1667
Input Volume	1660	1660

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	194	194
Hourly Exit Rate	194	194
Input Volume	190	190
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

300: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.8	2.6	2.7
Vehicles Exited	695	980	1675
Hourly Exit Rate	695	980	1675
Input Volume	700	970	1670
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	2375	2375
Hourly Exit Rate	2375	2375
Input Volume	2400	2400
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

501: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.2	3.7	3.5
Vehicles Exited	659	738	1397
Hourly Exit Rate	659	738	1397
Input Volume	660	729	1390
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

800: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.1	0	0
Total Del/Veh (s)	0.6	2	1.7
Vehicles Exited	415	1179	1594
Hourly Exit Rate	415	1179	1594
Input Volume	420	1180	1599
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	5.3
Total Del/Veh (s)	75.6
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	23
Denied Entry Before	1
Denied Entry After	216

Queuing an AM Peak Hour
2042 Altern 9/3/2014

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	148	333	383	428	190	319	441	442	429	82	336	242	101	228
Average Queue (ft)	59	179	212	250	57	175	226	252	257	26	168	63	27	105
95th Queue (ft)	121	287	335	377	130	290	396	422	411	63	294	153	73	190
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	530				410	580				530	330		300	
Storage Blk Time (%)				0							1			0
Queuing Penalty (veh)				1							1			0

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	L	T	T	TR
Maximum Queue (ft)	139	457	702	1165	371	227	270	270	388	413	406	57	83	86	100	75	71	28	92	98	81	106
Average Queue (ft)	49	119	146	192	178	110	159	162	178	203	212	16	31	38	41	30	18	1	29	37	29	33
95th Queue (ft)	110	377	494	769	315	197	238	239	321	348	346	44	69	71	81	61	51	12	72	74	67	76
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923		3946	3946	3946
Upstream Blk Time (%)			0	0																		
Queuing Penalty (veh)			0	0																		
Storage Bay Dist (ft)	715				355	920	920	920				750	800						550			
Storage Blk Time (%)					0																	
Queuing Penalty (veh)					1																	

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	308	472	141	506	220	171	314	298	349	511	549
Average Queue (ft)	186	199	25	496	130	46	164	155	100	280	325

95th Queue (ft)	304	389	87	504	283	109	263	248	242	457	495
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				47							
Queuing Penalty (veh)				374							
Storage Bay Dist (ft)	250		90		160	185			290		
Storage Blk Time (%)	4	3	0	65	0		6		0	9	
Queuing Penalty (veh)	16	7	3	110	1		2		0	7	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	201	221	291	267
Average Queue (ft)	99	101	135	106
95th Queue (ft)	173	189	259	226
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	327	590	3751	72
Average Queue (ft)	125	512	3216	22
95th Queue (ft)	255	810	4648	53
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)	0		57	
Queuing Penalty (veh)	0		0	
Storage Bay Dist (ft)		530		
Storage Blk Time (%)		0	59	
Queuing Penalty (veh)		0	149	

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB

Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	L	T	T	T	>
Maximum Queue (ft)	46	63	209	144	162	268	164	144	139	117	79	78	98	161	176	132	175
Average Queue (ft)	6	21	95	73	85	135	62	64	61	43	27	19	29	77	85	33	74
95th Queue (ft)	28	53	177	126	134	222	131	118	113	94	62	57	74	137	151	95	140
Link Distance (ft)			1111			1079		737	737	737	737			1038	1038	1038	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300	300		300	300		700					300	550				650
Storage Blk Time (%)			0			0											
Queuing Penalty (veh)			0			0											

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	380	410	1285	1005	487	217	324	360	3520	3501	3496	410	255	285	894	714	357	259	218	242	309	276	256
Average Queue (ft)	350	376	740	311	248	81	203	345	2519	2495	2467	394	234	257	500	250	182	100	100	136	187	166	141
95th Queue (ft)	441	479	1456	720	470	169	327	433	4121	4090	4040	497	298	337	982	523	289	216	205	223	269	249	234
Link Distance (ft)			4930	4930	4930				3467	3467	3467				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)									21	18	19												
Queuing Penalty (veh)									0	0	0												
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)	23	63	0		1		1	5	54		56	6	21	59	1		5	0					
Queuing Penalty (veh)	69	191	0		2		7	26	245		254	35	66	182	2		13	1					

Intersection: 8: Coffee Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	>	L	T	T	>	L	L	>	L	L	>
Maximum Queue (ft)	410	114	75	102	86	302	375	586	57	83	140	175	189	127
Average Queue (ft)	207	21	15	32	25	74	104	284	7	26	49	85	102	43
95th Queue (ft)	344	78	49	81	65	204	390	578	31	64	107	150	165	97
Link Distance (ft)		902	902			952	952			860	860			901
Upstream Blk Time (%)							0							
Queuing Penalty (veh)							1							
Storage Bay Dist (ft)	600			600	650			650	500			500	500	
Storage Blk Time (%)							0	4						
Queuing Penalty (veh)							0	6						

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	186	228	336	316	223	168	360	1369	1334	1229	321	350	506	414	166	728	850	360
Average Queue (ft)	70	119	223	184	87	64	243	969	935	842	212	248	189	158	56	290	425	312
95th Queue (ft)	160	197	318	285	196	126	431	1662	1597	1478	329	360	435	333	125	633	908	427
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)																	0	
Queuing Penalty (veh)																	0	
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)			1				1	61			2	7	0			1	0	38
Queuing Penalty (veh)			2				6	109			4	15	0			1	2	84

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	121	205	209	156	167	260	297	228	141	182	158	253	135
Average Queue (ft)	43	98	104	75	91	131	150	107	44	79	67	94	62
95th Queue (ft)	96	176	185	136	147	227	254	188	100	148	138	188	127
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								1			1	16	2
Queuing Penalty (veh)								1			2	26	3

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	155	94	98	291	316	64	120	169	170	140	148	346	394
Average Queue (ft)	57	26	41	117	196	14	48	65	80	60	58	132	214
95th Queue (ft)	117	66	79	244	292	44	105	130	137	105	121	270	345
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		

Storage Blk Time (%)				0	0							0					
Queuing Penalty (veh)				0	1							0					

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	327	374	201	181	140	371	340	258	66	500	753	280	274	195	528	568	360
Average Queue (ft)	186	223	104	59	38	243	209	123	19	360	450	112	91	38	301	313	257
95th Queue (ft)	297	330	176	143	105	337	300	241	51	555	912	320	257	134	474	571	416
Link Distance (ft)		1374	1374	1374		1274	1274	1274			2052	2052	2052		564	564	
Upstream Blk Time (%)															1	7	
Queuing Penalty (veh)															0	0	
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)	0	2				2		0		4	7				11	3	18
Queuing Penalty (veh)	0	4				1		0		17	31				3	16	50

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	210	340	134	743	210	280	456	234	447	160
Average Queue (ft)	96	174	53	356	156	62	222	126	171	89
95th Queue (ft)	181	295	125	688	264	167	376	232	351	177
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			5	53	3	0	7	3	20	1
Queuing Penalty (veh)			30	144	10	0	5	11	67	2

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	91	92	138	85	107	65	169	261	150	80	189	169
Average Queue (ft)	32	27	63	25	37	20	75	100	15	19	93	73
95th Queue (ft)	74	68	109	63	82	48	140	206	74	57	159	135
Link Distance (ft)		1163			1019			1058	1058		414	414

Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	300		300	300		300	300			300
Storage Blk Time (%)							0	0		
Queuing Penalty (veh)							0	0		

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	167	178	385	243	227	175	159
Average Queue (ft)	87	85	192	61	59	76	64
95th Queue (ft)	141	144	356	201	159	138	113
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		300	400				150
Storage Blk Time (%)			2	0		0	0
Queuing Penalty (veh)			5	0		1	0

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	251	243	277	304	238	154	125	145	150	266	307	283	76	124	140	139	184	210	135	47	68	191	185	363
Average Queue (ft)	126	137	150	170	100	57	45	71	74	162	182	151	17	48	65	68	89	102	50	8	19	104	97	179
95th Queue (ft)	206	211	229	257	198	115	105	126	133	245	274	246	49	101	118	122	155	173	100	31	50	173	168	313
Link Distance (ft)			1066	1066	1066				1606	1606	1606	1606			726	726	726	726				1218	1218	
Upstream Blk Time (%)																								
Queuing Penalty (veh)																								
Storage Bay Dist (ft)	800	800				1000	970	970					850	720					840	520	520			720
Storage Blk Time (%)																								
Queuing Penalty (veh)																								

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	164	116	205	117	136

Average Queue (ft)	65	39	94	49	59
95th Queue (ft)	121	89	167	98	105
Link Distance (ft)		2884	5348	826	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	300				300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 18: Bentley & NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B132	B132	NB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	T	T	L	T	R	L	T	R
Maximum Queue (ft)	256	276	281	71	97	429	421	46	204	582	171	122	82	66	151	65
Average Queue (ft)	116	142	153	18	28	246	251	8	7	21	78	43	21	18	63	14
95th Queue (ft)	211	241	250	50	73	400	396	30	149	275	150	94	58	50	127	42
Link Distance (ft)		2743	2743			2396	2396		1128	1128		1461			1179	
Upstream Blk Time (%)									0	0						
Queuing Penalty (veh)									0	0						
Storage Bay Dist (ft)	680			580	770			720			200		300	150		300
Storage Blk Time (%)											0				1	
Queuing Penalty (veh)											0				0	

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	125	133	157	139	121	103	143	147	134	162	109
Average Queue (ft)	49	50	68	48	54	40	58	53	62	43	50
95th Queue (ft)	98	101	126	102	101	81	112	110	113	115	92
Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)									2	1	1
Queuing Penalty (veh)									5	4	2

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	419	260	188	274	223	293	281	90	524	440
Average Queue (ft)	85	175	172	86	118	95	166	168	42	305	252
95th Queue (ft)	134	333	265	160	219	177	250	253	80	448	383
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	43	46	5		0			0			
Queuing Penalty (veh)	197	172	11		0			1			

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	134	190	218	219	170	149	195	218	211	110	149	266	159
Average Queue (ft)	51	92	107	110	56	67	88	119	76	54	49	112	64
95th Queue (ft)	102	158	187	193	115	131	164	187	159	108	116	210	137
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)		0		1			0	0	18	3	2	11	1
Queuing Penalty (veh)		0		2			0	1	68	11	4	17	1

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	209	112	126	270	293	218	141	253	344	354	192	379	531	546
Average Queue (ft)	98	34	50	158	106	87	53	118	198	203	37	101	283	306
95th Queue (ft)	182	85	99	261	223	174	110	226	326	326	122	218	444	470
Link Distance (ft)		5602			2173	2173			1385	1385			2186	2186
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	225		225	225			225	400			300	400		
Storage Blk Time (%)	1			4	0		0		0	1	0		2	
Queuing Penalty (veh)	1			5	0		0		0	1	0		2	

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	68	56	52	102	87	70	172	164	77	176	154	60
Average Queue (ft)	14	14	14	32	32	20	80	58	26	85	56	11
95th Queue (ft)	43	41	39	71	69	54	148	122	64	147	118	40
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	62	107	123	121	138	116	138	118	108	136	207	142	122	130	108	276
Average Queue (ft)	11	40	42	48	66	42	56	47	39	52	95	56	50	55	17	131
95th Queue (ft)	41	86	89	99	115	89	111	97	90	109	169	116	99	108	62	225
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	600				700	600				600
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 25: NCC SPUI & Roselle

Movement	NB	NB	NB	NB	SB	SB	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	>	L	T	T	>	L	L	>	L	L	>
Maximum Queue (ft)	242	180	131	178	157	153	162	59	55	26	175	117	120	133
Average Queue (ft)	110	83	27	62	67	64	70	8	9	2	74	47	62	45
95th Queue (ft)	198	155	86	134	131	122	134	33	32	14	138	92	105	94
Link Distance (ft)		671	671			1058	1058				1221			1160
Upstream Blk Time (%)														
Queuing Penalty (veh)														

Storage Bay Dist (ft)	400			400	550			550	500	500		500	500			
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 27: NCC & Albers Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T	R	L	T	R
Maximum Queue (ft)	508	507	207	203	82	176	181	260	265	67	198	414	296	293	505	11
Average Queue (ft)	274	270	97	101	23	91	96	149	154	17	21	207	87	50	253	0
95th Queue (ft)	468	459	177	178	58	162	158	239	241	49	91	351	199	164	449	11
Link Distance (ft)			1128	1128				3079	3079			2741			1385	1385
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	920	920			580	720	720			580	200		300	200		
Storage Blk Time (%)												10			18	
Queuing Penalty (veh)												30			9	

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	TR	LT	TR	LT	TR
Maximum Queue (ft)	152	94	91	22	71	71	68	119
Average Queue (ft)	43	15	44	1	24	12	15	48
95th Queue (ft)	115	55	80	14	59	46	49	97
Link Distance (ft)	2831	2831	3950	3950	413	413	847	847
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	TR	LT	R	LTR
Maximum Queue (ft)	132	39	181	125	59	74	151
Average Queue (ft)	60	1	61	9	6	8	52
95th Queue (ft)	111	24	142	59	32	42	112

Link Distance (ft)	2191	2191	1153	1153	3950	3950	267
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	83	78	61	60	128	86	95	113	47	69	139	118	139	51
Average Queue (ft)	25	25	16	17	58	18	29	42	5	18	64	38	59	7
95th Queue (ft)	62	58	47	45	108	60	74	95	25	52	118	88	115	31
Link Distance (ft)		882		1209		1038	1038	1038			2422	2422	2422	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	300		300		300				300	300				300
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	66	88	176	186	89	225	158	84	101	117	194	210	66
Average Queue (ft)	23	25	71	64	30	92	60	33	35	61	92	106	20
95th Queue (ft)	55	61	135	131	70	165	124	69	82	100	169	180	54
Link Distance (ft)		429		638		834	834				757	757	757
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	300		300		300			400	450	450			
Storage Blk Time (%)				0									
Queuing Penalty (veh)				0									

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R

Maximum Queue (ft)	90	74	114	71	99	84	100	61	84	146	231	63
Average Queue (ft)	30	31	52	21	37	24	39	16	33	52	101	20
95th Queue (ft)	70	63	99	53	78	64	82	47	68	109	196	52
Link Distance (ft)		1250		2010		952	952			1356	1356	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)											0	
Queuing Penalty (veh)											0	

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	132	100	96	125	98	242	178	42	117	106	128	51
Average Queue (ft)	59	31	33	48	30	96	57	5	47	36	47	9
95th Queue (ft)	108	71	74	93	71	190	127	23	97	88	101	34
Link Distance (ft)		737		1093		1259	1259			902	902	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)						0						
Queuing Penalty (veh)						0						

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	156	122	151	122	95	214	320	55	97	146	160	48
Average Queue (ft)	68	52	58	52	33	66	133	15	35	61	70	10
95th Queue (ft)	126	97	116	100	75	141	252	42	77	121	123	33
Link Distance (ft)		636		496		370	370			1357	1357	1357
Upstream Blk Time (%)						0	0					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)	300		300		300			300	300			
Storage Blk Time (%)							0					
Queuing Penalty (veh)							0					

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	94	211	247	226	89	153	164
Average Queue (ft)	35	101	110	98	36	60	81
95th Queue (ft)	79	177	197	187	78	122	141
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Davis & Claribel Realigned (N)

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	61	65	31	18
Average Queue (ft)	22	24	2	1
95th Queue (ft)	53	58	15	9
Link Distance (ft)	662	702		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			50	50
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	113	91	186	88	215	253	90	126	285
Average Queue (ft)	44	31	80	27	76	109	32	44	124
95th Queue (ft)	92	72	147	69	164	207	73	95	232
Link Distance (ft)		1110	417		1218	1218		1028	1028
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)									

Queuing Penalty (veh)

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	T	T	R	L	L	T	T
Maximum Queue (ft)	113	96	97	229	83	71	82	116	122
Average Queue (ft)	44	33	41	110	26	13	38	32	53
95th Queue (ft)	88	69	84	195	66	47	73	90	107
Link Distance (ft)	437		1878	1878				1205	1205
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		300			300	890	890		
Storage Blk Time (%)				0					
Queuing Penalty (veh)				0					

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	81	116	74	162	38
Average Queue (ft)	23	56	29	74	3
95th Queue (ft)	56	95	63	127	18
Link Distance (ft)	847	847	795		801
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				300	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 56:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)

Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 57:

Movement	B299	B299
Directions Served	T	
Maximum Queue (ft)	8	8
Average Queue (ft)	0	0
95th Queue (ft)	8	8
Link Distance (ft)	377	377
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 58:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 62: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)

95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 63:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 77:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 81:

Movement

Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 84: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 90: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	461	108
Average Queue (ft)	30	5
95th Queue (ft)	210	75
Link Distance (ft)	586	586
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 91: Bend

Movement	WB
Directions Served	T
Maximum Queue (ft)	275
Average Queue (ft)	10
95th Queue (ft)	281
Link Distance (ft)	2743
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 109:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	

Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 117: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 118:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 122: NCC

Movement	B155	B155	B155
Directions Served	T	T	
Maximum Queue (ft)	9	66	25
Average Queue (ft)	0	3	1
95th Queue (ft)	7	33	14
Link Distance (ft)	1066	1066	1066

Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 125: NCC SPUI & NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 128:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 154: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	158

Average Queue (ft)	6
95th Queue (ft)	161
Link Distance (ft)	1606
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 186:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 187:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 192:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary
Network wide Queuing Penalty: 2974

SimTraffic I AM Peak Hour
2042 Alternative 2B
9/3/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.2	0.2	1	0	0	0	2.3	0.5	0.6	2.4	0.2	0.3	0.3
Total Del/Veh (s)	54.4	36.7	11.9	56.2	35.1	16.7	49.9	30.1	16.3	41.4	44.8	25.5	36.6
Vehicles Exited	68	1172	139	221	1681	69	212	81	39	28	90	70	3870
Hourly Exit Rate	68	1172	139	221	1681	69	212	81	39	28	90	70	3870
Input Volume	70	1150	140	220	1670	70	220	80	40	30	90	70	3851
% of Volume	97	102	99	100	101	98	96	101	98	94	100	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	60.5	33.1	30.9	39	22.7	5.4	31.2	25.9	2.6	38.8	31.3	17.5	27.8
Vehicles Exited	48	724	462	612	1746	52	156	92	174	40	107	66	4279
Hourly Exit Rate	48	724	462	612	1746	52	156	92	174	40	107	66	4279
Input Volume	50	711	460	610	1740	50	160	90	170	40	110	60	4250
% of Volume	96	102	100	100	100	104	98	103	102	101	97	110	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.5	0.5	0.6	0	0	0	0	0	0	0.3	0.2	0.2	0.2
Total Del/Veh (s)	70.2	30.6	21.8	120	83.9	50.8	60.4	37.7	30.7	63	55.1	53.1	55.2
Vehicles Exited	197	296	76	16	511	122	42	471	20	74	585	242	2652
Hourly Exit Rate	197	296	76	16	511	122	42	471	20	74	585	242	2652
Input Volume	200	300	70	20	620	150	40	471	20	80	580	240	2792
% of Volume	99	99	108	79	82	81	106	100	99	92	101	101	95
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	17.7	5.6	9.6	0.2	14.3	12.1
Vehicles Exited	210	22	510	108	681	1531
Hourly Exit Rate	210	22	510	108	681	1531
Input Volume	250	20	510	110	675	1565
% of Volume	84	109	100	98	101	98
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0	0	134	136	0	91.5
Total Del/Veh (s)	13	5.9	290	354	4.6	227
Vehicles Exited	374	19	212	648	108	1361
Hourly Exit Rate	374	19	212	648	108	1361
Input Volume	384	20	250	790	110	1554
% of Volume	97	94	85	82	98	88
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	24	82	0	106

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	15.7	0.8	21.9	22.2	0.7	20.7	19.8	13.9	2.2	15.6	15.4	9.8	15.8
Vehicles Exited	42	1	158	283	1	275	130	435	141	48	522	286	2322
Hourly Exit Rate	42	1	158	283	1	275	130	435	141	48	522	286	2322
Input Volume	40	1	150	290	1	270	130	430	140	50	530	280	2312
% of Volume	106	133	106	98	133	102	100	101	101	96	98	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.2	0.6	0.3	0.4	0.3	0.1	0.2	2.7	0.1	0.2	0.3
Total Del/Veh (s)	193	41.8	11.4	177	177	135	104	35.7	14.7	63.4	34.4	22.3	100
Vehicles Exited	314	917	236	429	1588	429	310	916	237	162	615	163	6316
Hourly Exit Rate	314	917	236	429	1588	429	310	916	237	162	615	163	6316
Input Volume	320	910	240	450	1660	450	310	930	240	160	610	170	6450
% of Volume	98	101	98	95	96	95	100	98	99	101	101	96	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

8: Coffee Rd Performance by movement

Movement	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NET	NER2	SWL	SWT	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	28.6	8.9	6.7	33	20.7	42.6	27.4	0.2	16.1	27.1	0.4	31.8	25.2
Vehicles Exited	411	198	267	32	288	457	88	5	104	319	12	50	2231
Hourly Exit Rate	411	198	267	32	288	457	88	5	104	319	12	50	2231
Input Volume	420	201	260	30	290	450	90	6	100	330	11	50	2237
% of Volume	98	99	103	108	99	102	98	83	104	97	107	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.4	0.1	2.4	0.8	0.1	0.1	2.6	0.1	0.2	2.7	0.2	2.7	0.8
Total Del/Veh (s)	61.1	30	10.1	63.4	64.9	42.9	54	25.7	15.2	48.5	42.4	42.8	46.6
Vehicles Exited	188	768	257	169	1621	121	452	413	146	59	444	441	5079
Hourly Exit Rate	188	768	257	169	1621	121	452	413	146	59	444	441	5079
Input Volume	190	770	250	180	1620	120	460	410	150	60	440	440	5090
% of Volume	99	100	103	94	100	101	98	101	97	98	101	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.5	0.1	0.2	0.3	0.2	0.2	1.6	0.2	0.1	1.6	0.4	1.6	0.4
Total Del/Veh (s)	46.4	17.1	9.9	55.4	17.9	13.6	39.9	28.1	29.1	41.1	34.7	10	25.8

Vehicles Exited	47	415	78	224	666	52	138	60	126	69	111	99	2085
Hourly Exit Rate	47	415	78	224	666	52	138	60	126	69	111	99	2085
Input Volume	50	420	80	230	680	50	140	60	120	70	110	100	2111
% of Volume	94	99	97	97	98	104	98	100	105	98	101	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.3	0.2	0.4	0.2	3.2	0	0	0	0.3	0.1	0.1	0.4
Total Del/Veh (s)	28.7	44.4	11.4	32.3	38.3	3.5	42.6	21.4	7.1	42.8	29	24.5	25.6
Vehicles Exited	90	30	80	451	21	72	49	298	246	72	646	49	2104
Hourly Exit Rate	90	30	80	451	21	72	49	298	246	72	646	49	2104
Input Volume	90	30	80	450	20	70	50	300	240	70	650	50	2101
% of Volume	100	101	100	100	104	102	98	99	102	102	99	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.2	2.8	3.1	0.1	3.1	0.4	0.1	0.2	4.7	2.2	4.7	1.4
Total Del/Veh (s)	51.7	30.7	3.1	55.3	64	8	58.6	15.4	7.6	55.9	58	33.6	44.1
Vehicles Exited	391	274	315	30	548	28	898	391	40	29	559	510	4013
Hourly Exit Rate	391	274	315	30	548	28	898	391	40	29	559	510	4013
Input Volume	400	280	300	30	550	30	870	380	40	30	550	520	3979
% of Volume	98	98	105	101	100	94	103	103	101	97	102	98	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	1	1	2

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.6	0.6	0.6	3.5	0.5	0.6	2.1	1	2.1	0.9
Total Del/Veh (s)	46.4	33.3	24.3	116	91.5	66.1	34.6	46.5	39.4	42.4	40.6	12.9	51.2
Vehicles Exited	129	321	40	40	356	227	69	254	50	183	207	163	2039
Hourly Exit Rate	129	321	40	40	356	227	69	254	50	183	207	163	2039
Input Volume	130	320	40	40	360	230	70	250	50	180	200	160	2030

% of Volume	99	100	101	101	99	99	98	101	100	102	104	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.8	3.7	3.9	0.4	3.9	0	0	0	0	0	0	0.9
Total Del/Veh (s)	27.1	16.7	6.8	28.4	19.3	3.4	29.4	16	3.8	29.8	15.9	8.2	16.1
Vehicles Exited	40	37	214	31	80	50	134	364	32	23	445	22	1472
Hourly Exit Rate	40	37	214	31	80	50	134	364	32	23	445	22	1472
Input Volume	40	40	210	30	80	50	140	360	30	20	440	20	1460
% of Volume	101	93	102	104	100	100	96	101	108	114	101	109	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.8	3.6	0.6
Total Del/Veh (s)	14.8	7.2	41.6	5.7	15.8	6.1	15
Vehicles Exited	321	156	309	507	151	268	1712
Hourly Exit Rate	321	156	309	507	151	268	1712
Input Volume	320	160	310	510	160	270	1729
% of Volume	100	98	100	99	95	99	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	32.2	18.8	5.1	53.3	32.3	8	53.5	35.6	5.1	52.5	47.2	19.6	28.2
Vehicles Exited	420	1053	268	196	852	57	199	319	128	31	303	493	4319
Hourly Exit Rate	420	1053	268	196	852	57	199	319	128	31	303	493	4319
Input Volume	420	1040	260	200	850	50	200	310	130	30	301	490	4281
% of Volume	100	101	103	98	100	114	100	103	98	104	101	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	1.9	0.5	0.3	0.3	0.7	3.7	1.3
Total Del/Veh (s)	15.5	5.9	17.7	9.5	13.9	6.2	11
Vehicles Exited	143	250	220	80	98	216	1007
Hourly Exit Rate	143	250	220	80	98	216	1007
Input Volume	140	250	220	80	100	210	1000
% of Volume	102	100	100	100	98	103	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

18: Bentley & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	3.7	0.5	3.7	3.9	0.3	4	0.3
Total Del/Veh (s)	46.1	15.5	4.5	41.3	28.9	6.1	45	23.3	8	42.7	32.7	11	24.8
Vehicles Exited	199	917	78	30	978	23	100	82	49	18	100	34	2608
Hourly Exit Rate	199	917	78	30	978	23	100	82	49	18	100	34	2608
Input Volume	200	920	80	30	971	20	100	80	50	20	100	30	2600
% of Volume	100	100	97	101	101	114	100	102	98	89	100	114	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.3	0.3	0.3	3.7	0.4	0.5	2.1	0.6	2	0.8
Total Del/Veh (s)	25.1	12.9	7.3	25.2	13.2	5.6	17.2	12.1	5.9	17.8	13.6	4.7	13.2
Vehicles Exited	78	370	63	61	189	81	110	67	39	125	80	153	1416
Hourly Exit Rate	78	370	63	61	189	81	110	67	39	125	80	153	1416
Input Volume	80	370	60	60	190	80	110	70	40	130	80	150	1421
% of Volume	97	100	105	102	99	101	100	95	98	96	100	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.7	0.6	0.6	0.4	0.2	0.2	2	0.8	2	0.2	0.2	0.2	0.5
Total Del/Veh (s)	99.3	60.4	50.3	74.1	38.3	12.3	48.9	51.7	11.6	61.2	48.7	42.2	48.2
Vehicles Exited	79	393	104	192	226	351	111	353	166	384	481	20	2860
Hourly Exit Rate	79	393	104	192	226	351	111	353	166	384	481	20	2860
Input Volume	80	400	100	200	230	350	110	360	160	380	490	20	2880
% of Volume	98	98	104	96	98	100	101	98	104	101	98	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.6	0.2	0.2	0.3	0.1	0.1	2.1	0.7	2	0.3	0.3	0.3	0.6
Total Del/Veh (s)	37.3	23.8	15.7	36.9	17.8	11.9	43	25.5	7.6	39.4	31.2	10.6	25.2
Vehicles Exited	68	483	164	174	442	47	282	120	104	54	158	115	2211
Hourly Exit Rate	68	483	164	174	442	47	282	120	104	54	158	115	2211
Input Volume	70	480	160	170	440	50	280	120	100	50	160	110	2190
% of Volume	97	101	103	102	101	94	101	100	104	108	99	105	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	3.1	0.3	3.1	0	0	0	2.4	0.4	0.4	0.6
Total Del/Veh (s)	66.2	47.2	19	50.8	41.6	15.8	65.2	28.7	9.1	64	44.3	40.6	39.4
Vehicles Exited	113	50	75	218	289	158	130	954	78	108	1017	100	3290
Hourly Exit Rate	113	50	75	218	289	158	130	954	78	108	1017	100	3290
Input Volume	110	50	70	220	280	160	130	950	80	110	1010	100	3270
% of Volume	103	100	107	99	103	99	100	100	97	98	101	100	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4	0.2	4	2.4	0.2	0.2	3.1	0.2	0.3	2.9	0.2	2.8	0.5
Total Del/Veh (s)	25.5	25.2	4.6	22.5	23.2	6.3	25.2	8.9	4.3	22	8.8	4.1	9.8

Vehicles Exited	19	19	35	40	24	30	30	590	98	26	648	33	1592
Hourly Exit Rate	19	19	35	40	24	30	30	590	98	26	648	33	1592
Input Volume	20	20	30	40	20	30	30	600	100	30	650	30	1599
% of Volume	94	94	118	101	119	101	101	98	98	87	100	111	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0		0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	22.4		23.7	22.5	0.1	22.3	27.6	10	9.7	27.8	10	11.9	13.5
Vehicles Exited	86	0	64	188	1	49	80	459	438	91	493	594	2543
Hourly Exit Rate	86	0	64	188	1	49	80	459	438	91	493	594	2543
Input Volume	90	0	60	180	0	50	80	451	440	90	492	600	2533
% of Volume	96	0	107	104	400	98	100	102	100	101	100	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

25: NCC SPUI & Roselle Performance by movement

Movement	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWT	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0		0	0
Total Del/Veh (s)	21	12.3	8.1	26.9	16.4	8.2	19	16.8	21.9		21.2	15.7
Vehicles Exited	257	444	370	121	501	66	17	146	179	0	71	2172
Hourly Exit Rate	257	444	370	121	501	66	17	146	179	0	71	2172
Input Volume	260	440	360	120	500	60	20	140	180	0	70	2152
% of Volume	99	101	103	101	100	110	84	104	99	0	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

26: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	872	872
Hourly Exit Rate	872	872
Input Volume	870	870

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

27: NCC & Albers Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.6	0.6	0.6	0	0	0	0.1
Total Del/Veh (s)	59	26.4	6.8	43.2	41.5	10.5	59.7	31.6	8.6	64.7	44.8	15.1	35.3
Vehicles Exited	711	231	49	201	278	20	20	429	224	18	555	734	3470
Hourly Exit Rate	711	231	49	201	278	20	20	429	224	18	555	734	3470
Input Volume	710	231	50	210	271	20	20	430	220	20	550	730	3462
% of Volume	100	100	98	96	103	99	99	100	102	89	101	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & SMITH Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0.3	0.4	3.9	0.5
Total Del/Veh (s)	15.6	7.4	3.6	20.8	13.1	4.5	14.1	13.7	4.8	12.7	13.2	4.4	10.4
Vehicles Exited	127	326	20	18	355	22	19	22	24	19	20	122	1094
Hourly Exit Rate	127	326	20	18	355	22	19	22	24	19	20	122	1094
Input Volume	130	321	20	20	360	20	20	20	20	20	20	120	1093
% of Volume	98	102	99	89	99	109	94	109	119	94	99	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.3	0.2	0	0	0	0	0	0.1
Total Del/Veh (s)	9.7	5.9	6	10.3	1.1	0	4.4	6.9
Vehicles Exited	213	80	310	228	27	1	337	1196
Hourly Exit Rate	213	80	310	228	27	1	337	1196
Input Volume	210	80	320	230	30	1	330	1200
% of Volume	102	100	97	99	91	100	102	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.3	4.2	0.1	0.2	0	0	0	1.4	0.2	1.3	0.2
Total Del/Veh (s)	19.4	18.7	5.9	18.5	15.6	4.4	17.4	5.8	3.6	21.7	7.2	3.4	7.7
Vehicles Exited	26	10	42	17	9	22	99	631	20	18	798	23	1715
Hourly Exit Rate	26	10	42	17	9	22	99	631	20	18	798	23	1715
Input Volume	30	10	40	20	10	20	100	620	20	20	800	20	1711
% of Volume	87	98	106	84	88	109	99	102	99	89	100	114	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.2	0.1	3.6	0.6	0.6	3.1	0.3	3.1	0	0	0	0.6
Total Del/Veh (s)	28.9	26.7	7	21.2	19.9	7.8	26.1	12.5	3.6	22.8	8.8	1.6	11.6
Vehicles Exited	30	12	30	116	9	189	42	484	101	136	765	61	1975
Hourly Exit Rate	30	12	30	116	9	189	42	484	101	136	765	61	1975
Input Volume	30	10	30	120	10	190	40	480	100	140	770	60	1980
% of Volume	101	117	101	97	88	99	106	101	101	97	99	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.9	0.2	0.2	0.2	0.2	0.2	0	0	0	3	0.3	3	0.5
Total Del/Veh (s)	16.1	12.4	6.7	17.8	12.6	4	20.5	7.8	3.6	20.7	9.3	4.2	10.1
Vehicles Exited	49	10	52	100	9	54	49	240	46	52	617	52	1330
Hourly Exit Rate	49	10	52	100	9	54	49	240	46	52	617	52	1330
Input Volume	50	10	50	100	10	50	50	240	50	50	620	50	1331
% of Volume	98	98	104	100	88	108	98	100	92	104	100	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.6	0.4	3.8	0.4	0.3	3	0.4	2.9	0	0	0	0.7
Total Del/Veh (s)	22.5	17.5	5.7	18.2	18.5	7.7	24.6	12.2	4.3	22.9	9	4.3	11.9
Vehicles Exited	94	12	53	50	12	102	47	681	53	98	514	98	1814
Hourly Exit Rate	94	12	53	50	12	102	47	681	53	98	514	98	1814
Input Volume	100	10	50	50	10	100	50	680	50	100	520	100	1820
% of Volume	94	117	106	100	117	102	94	100	106	98	99	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.5	0.5	3.8	0.5	0.5	2.9	0.5	2.9	0	0	0	0.8
Total Del/Veh (s)	21.5	16.3	7.1	19.7	16.6	8.3	24.4	11	2.9	27	10	3	11.7
Vehicles Exited	118	11	120	96	12	102	36	756	51	55	646	42	2045
Hourly Exit Rate	118	11	120	96	12	102	36	756	51	55	646	42	2045
Input Volume	120	10	120	100	10	100	40	750	50	50	641	40	2030
% of Volume	98	107	100	96	117	102	91	101	102	110	101	106	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	2	0.4	0.3	0.4	0	0	0.2
Total Del/Veh (s)	19.5	11	11.3	6.2	25.1	7.7	10.2
Vehicles Exited	50	283	788	52	49	778	2000
Hourly Exit Rate	50	283	788	52	49	778	2000
Input Volume	50	280	780	50	50	770	1980
% of Volume	100	101	101	104	98	101	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Davis & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	4	0.2	0.2	0	0	0	0.2
Total Del/Veh (s)	5.7	6.8	3.5	5.8	6.5	3	2.3	0.3	0.2	2.6	0.9	0.7	1.5

Vehicles Exited	8	12	11	10	10	11	9	118	11	10	141	10	361
Hourly Exit Rate	8	12	11	10	10	11	9	118	11	10	141	10	361
Input Volume	10	10	10	10	10	10	10	120	10	10	140	10	363
% of Volume	78	117	107	98	98	107	88	98	107	98	101	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.2	0.2	0.2	0	0	0	2.9	0.3	0.4	0.2
Total Del/Veh (s)	19.3	13.6	7.5	17.3	19.1	9.5	27.8	12.9	11.8	26.5	11.5	8.6	12.9
Vehicles Exited	68	11	58	114	11	22	30	540	228	40	649	118	1889
Hourly Exit Rate	68	11	58	114	11	22	30	540	228	40	649	118	1889
Input Volume	70	11	60	120	10	20	30	521	230	40	640	120	1872
% of Volume	97	98	97	95	107	109	101	104	99	101	101	98	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.3	1.5	0	0	0.2
Total Del/Veh (s)	16.7	6.3	8.4	4	19.1	6.1	8
Vehicles Exited	80	86	558	80	82	687	1573
Hourly Exit Rate	80	86	558	80	82	687	1573
Input Volume	80	80	560	80	80	680	1561
% of Volume	100	107	100	100	102	101	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	9.7	9.7
Vehicles Exited	797	797
Hourly Exit Rate	797	797
Input Volume	900	900

% of Volume	89	89
Denied Entry Before	0	0
Denied Entry After	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0
Total Del/Veh (s)	3.6	8.8	4.7	3.1	6.6	2.4	4.2	4.8	2.9	3.6	4.6	2.9	6.8
Vehicles Exited	22	326	19	18	352	20	19	12	21	20	10	20	859
Hourly Exit Rate	22	326	19	18	352	20	19	12	21	20	10	20	859
Input Volume	20	320	20	20	360	20	20	10	20	20	10	20	862
% of Volume	109	102	94	89	98	99	94	117	104	99	98	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	641	641
Hourly Exit Rate	641	641
Input Volume	630	630
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.6	7.6
Vehicles Exited	784	784
Hourly Exit Rate	784	784
Input Volume	820	820
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.4	10.4
Vehicles Exited	785	785
Hourly Exit Rate	785	785
Input Volume	790	790
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	1663	1663
Hourly Exit Rate	1663	1663
Input Volume	1700	1700
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	158	158
Hourly Exit Rate	158	158
Input Volume	160	160
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	236	236
Hourly Exit Rate	236	236
Input Volume	240	240
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	496	496
Hourly Exit Rate	496	496
Input Volume	490	490
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	237	237
Hourly Exit Rate	237	237
Input Volume	240	240
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8

Vehicles Exited	227	227
Hourly Exit Rate	227	227
Input Volume	231	231
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	205	205
Hourly Exit Rate	205	205
Input Volume	200	200
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	11	11
Vehicles Exited	2053	2053
Hourly Exit Rate	2053	2053
Input Volume	2140	2140
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.8	6.8
Vehicles Exited	1225	1225
Hourly Exit Rate	1225	1225
Input Volume	1220	1220

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.1	5.1
Vehicles Exited	904	904
Hourly Exit Rate	904	904
Input Volume	880	880
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	2.7	1.1	1.9
Vehicles Exited	1215	1108	2323
Hourly Exit Rate	1215	1108	2323
Input Volume	1200	1100	2300
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	929	929
Hourly Exit Rate	929	929
Input Volume	920	920
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

56: Performance by movement

Movement	NET	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	0.7	0.8
Vehicles Exited	738	199	937
Hourly Exit Rate	738	199	937
Input Volume	730	190	921
% of Volume	101	105	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

57: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.6	0.3	1.3
Vehicles Exited	738	189	927
Hourly Exit Rate	738	189	927
Input Volume	730	190	920
% of Volume	101	99	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

58: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	1.4	1.4
Vehicles Exited	2080	560	2640
Hourly Exit Rate	2080	560	2640
Input Volume	2067	560	2627
% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	91	91
Hourly Exit Rate	91	91
Input Volume	90	90
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	618	618
Hourly Exit Rate	618	618
Input Volume	620	620
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	478	478
Hourly Exit Rate	478	478
Input Volume	490	490
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

62: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.6	4.3	2.8

Vehicles Exited	1252	163	1415
Hourly Exit Rate	1252	163	1415
Input Volume	1241	160	1400
% of Volume	101	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

63: Performance by movement

Movement	EBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	7.2	0.3	0.5	2.4
Vehicles Exited	936	1	2414	3351
Hourly Exit Rate	936	1	2414	3351
Input Volume	920	1	2400	3321
% of Volume	102	100	101	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.4	6.4
Vehicles Exited	554	554
Hourly Exit Rate	554	554
Input Volume	550	550
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

65: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	458	458
Hourly Exit Rate	458	458
Input Volume	460	460

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	345	345
Hourly Exit Rate	345	345
Input Volume	350	350
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	465	465
Hourly Exit Rate	465	465
Input Volume	470	470
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	193	193
Hourly Exit Rate	193	193
Input Volume	190	190
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	219	219
Hourly Exit Rate	219	219
Input Volume	221	221
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	451	451
Hourly Exit Rate	451	451
Input Volume	450	450
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	1956	1956
Hourly Exit Rate	1956	1956
Input Volume	1940	1940
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

72: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	1740	1740
Hourly Exit Rate	1740	1740
Input Volume	1720	1720
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.4	0	0.2
Total Del/Veh (s)	2.7	2.7	2.7
Vehicles Exited	510	451	961
Hourly Exit Rate	510	451	961
Input Volume	510	450	960
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.4	0.2
Total Del/Veh (s)	3.4	0.5	1.9
Vehicles Exited	454	488	942
Hourly Exit Rate	454	488	942
Input Volume	450	480	930
% of Volume	101	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

75: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.1	2.9	4

Vehicles Exited	988	1032	2020
Hourly Exit Rate	988	1032	2020
Input Volume	990	1020	2010
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.4	8.4
Vehicles Exited	1948	1948
Hourly Exit Rate	1948	1948
Input Volume	1960	1960
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

77: Performance by movement

Movement	WBT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.6	2.2	2.5
Vehicles Exited	1292	322	1614
Hourly Exit Rate	1292	322	1614
Input Volume	1290	320	1610
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.2	1.2
Vehicles Exited	48	48
Hourly Exit Rate	48	48
Input Volume	51	51

% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	87	87
Hourly Exit Rate	87	87
Input Volume	80	80
% of Volume	109	109
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	143	143
Hourly Exit Rate	143	143
Input Volume	150	150
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	2.5	1.3	2	2.4
Vehicles Exited	1249	1	490	1740
Hourly Exit Rate	1249	1	490	1740
Input Volume	1240	0	480	1720
% of Volume	101	400	102	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	120	120
Hourly Exit Rate	120	120
Input Volume	120	120
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	537	537
Hourly Exit Rate	537	537
Input Volume	540	540
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.7	3.2	1.9
Vehicles Exited	1292	252	1544
Hourly Exit Rate	1292	252	1544
Input Volume	1290	250	1540
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.4	0	0.2
Total Del/Veh (s)	0.6	2.3	1.6
Vehicles Exited	478	657	1135
Hourly Exit Rate	478	657	1135
Input Volume	480	670	1149
% of Volume	100	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.7	0	0.4
Total Del/Veh (s)	1	3.4	2
Vehicles Exited	816	591	1407
Hourly Exit Rate	816	591	1407
Input Volume	820	590	1410
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	451	451
Hourly Exit Rate	451	451
Input Volume	450	450
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2

Vehicles Exited	723	723
Hourly Exit Rate	723	723
Input Volume	720	720
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	638	638
Hourly Exit Rate	638	638
Input Volume	650	650
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.6	0	0.2
Total Del/Veh (s)	2.3	8.2	5.8
Vehicles Exited	617	885	1502
Hourly Exit Rate	617	885	1502
Input Volume	620	920	1540
% of Volume	100	96	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

91: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.3	9.5	6.8
Vehicles Exited	1195	1114	2309
Hourly Exit Rate	1195	1114	2309
Input Volume	1200	1100	2300

% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

92: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	6.8	3.7	5.2
Vehicles Exited	985	1029	2014
Hourly Exit Rate	985	1029	2014
Input Volume	990	1020	2010
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	611	611
Hourly Exit Rate	611	611
Input Volume	610	610
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	208	208
Hourly Exit Rate	208	208
Input Volume	210	210
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	303	303
Hourly Exit Rate	303	303
Input Volume	300	300
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

96: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.3	7.3
Vehicles Exited	1318	1318
Hourly Exit Rate	1318	1318
Input Volume	1310	1310
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5	5
Vehicles Exited	351	351
Hourly Exit Rate	351	351
Input Volume	350	350
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	841	841
Hourly Exit Rate	841	841
Input Volume	830	830
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	236	236
Hourly Exit Rate	236	236
Input Volume	241	241
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

100: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	172	172
Hourly Exit Rate	172	172
Input Volume	171	171
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.5	1.8	2.3

Vehicles Exited	1998	418	2416
Hourly Exit Rate	1998	418	2416
Input Volume	1990	411	2401
% of Volume	100	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	886	886
Hourly Exit Rate	886	886
Input Volume	920	920
% of Volume	96	96
Denied Entry Before	0	0
Denied Entry After	0	0

103: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	1543	1543
Hourly Exit Rate	1543	1543
Input Volume	1540	1540
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	912	912
Hourly Exit Rate	912	912
Input Volume	920	920

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	722	722
Hourly Exit Rate	722	722
Input Volume	720	720
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.2	6.2
Vehicles Exited	2511	2511
Hourly Exit Rate	2511	2511
Input Volume	2520	2520
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	902	902
Hourly Exit Rate	902	902
Input Volume	920	920
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	413	413
Hourly Exit Rate	413	413
Input Volume	420	420
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

109: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	1615	1615
Hourly Exit Rate	1615	1615
Input Volume	1610	1610
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.3	7.3
Vehicles Exited	973	973
Hourly Exit Rate	973	973
Input Volume	980	980
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	811	811
Hourly Exit Rate	811	811
Input Volume	810	810
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.3	4.3
Vehicles Exited	587	587
Hourly Exit Rate	587	587
Input Volume	590	590
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

113: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	348	348
Hourly Exit Rate	348	348
Input Volume	340	340
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9

Vehicles Exited	628	628
Hourly Exit Rate	628	628
Input Volume	610	610
% of Volume	103	103
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	658	658
Hourly Exit Rate	658	658
Input Volume	670	670
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	610	610
Hourly Exit Rate	610	610
Input Volume	610	610
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

117: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	1	0.7
Vehicles Exited	1380	237	1617
Hourly Exit Rate	1380	237	1617
Input Volume	1381	230	1611

% of Volume	100	103	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

118: Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.2	2.2	2.2
Vehicles Exited	1377	675	2052
Hourly Exit Rate	1377	675	2052
Input Volume	1380	680	2060
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	774	774
Hourly Exit Rate	774	774
Input Volume	789	789
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.9	5.9
Vehicles Exited	356	356
Hourly Exit Rate	356	356
Input Volume	360	360
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

121: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	278	278
Hourly Exit Rate	278	278
Input Volume	280	280
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

122: NCC Performance by movement

Movement	WBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	3	0.7	1.5	2.2
Vehicles Exited	1542	1	1742	3285
Hourly Exit Rate	1542	1	1742	3285
Input Volume	1540	1	1720	3262
% of Volume	100	100	101	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.5	6.5
Vehicles Exited	520	520
Hourly Exit Rate	520	520
Input Volume	510	510
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

124: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	28	28
Hourly Exit Rate	28	28
Input Volume	31	31
% of Volume	91	91
Denied Entry Before	0	0
Denied Entry After	0	0

125: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.8	0.9	1.7
Vehicles Exited	919	150	1069
Hourly Exit Rate	919	150	1069
Input Volume	900	150	1050
% of Volume	102	100	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	1036	1036
Hourly Exit Rate	1036	1036
Input Volume	1020	1020
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

128: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0		0	0
Total Del/Veh (s)	1.8		1.9	1.9

Vehicles Exited	886	0	529	1415
Hourly Exit Rate	886	0	529	1415
Input Volume	870	0	530	1401
% of Volume	102	0	100	101
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

129: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	830	830
Hourly Exit Rate	830	830
Input Volume	820	820
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	2053	2053
Hourly Exit Rate	2053	2053
Input Volume	2060	2060
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	SW	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	807	807
Hourly Exit Rate	807	807
Input Volume	810	810

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5	4	4.5
Vehicles Exited	987	1030	2017
Hourly Exit Rate	987	1030	2017
Input Volume	990	1020	2010
% of Volume	100	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.1	6.1	5.1
Vehicles Exited	471	497	968
Hourly Exit Rate	471	497	968
Input Volume	470	500	971
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

134: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	1214	1214
Hourly Exit Rate	1214	1214
Input Volume	1200	1200
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6	6
Vehicles Exited	1283	1283
Hourly Exit Rate	1283	1283
Input Volume	1300	1300
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

138: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	1416	1416
Hourly Exit Rate	1416	1416
Input Volume	1400	1400
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	945	945
Hourly Exit Rate	945	945
Input Volume	940	940
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	255	255
Hourly Exit Rate	255	255
Input Volume	260	260
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.5	0.2
Total Del/Veh (s)	3.4	2.5	3
Vehicles Exited	550	539	1089
Hourly Exit Rate	550	539	1089
Input Volume	540	550	1089
% of Volume	102	98	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	58	58
Hourly Exit Rate	58	58
Input Volume	61	61
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

146: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8

Vehicles Exited	549	549
Hourly Exit Rate	549	549
Input Volume	540	540
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

147: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4	2.6	3.3
Vehicles Exited	367	394	761
Hourly Exit Rate	367	394	761
Input Volume	360	401	761
% of Volume	102	98	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

149: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	1183	1183
Hourly Exit Rate	1183	1183
Input Volume	1180	1180
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	132	132
Hourly Exit Rate	132	132
Input Volume	130	130

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

151: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	33	33
Hourly Exit Rate	33	33
Input Volume	31	31
% of Volume	107	107
Denied Entry Before	0	0
Denied Entry After	0	0

152: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.4	0.4
Vehicles Exited	162	162
Hourly Exit Rate	162	162
Input Volume	161	161
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

153: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	454	454
Hourly Exit Rate	454	454
Input Volume	450	450
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	9.5	2.8	6.3
Vehicles Exited	1216	1106	2322
Hourly Exit Rate	1216	1106	2322
Input Volume	1200	1100	2300
% of Volume	101	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.2	7.5	4.2
Vehicles Exited	1743	1544	3287
Hourly Exit Rate	1743	1544	3287
Input Volume	1720	1540	3260
% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

157: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	223	223
Hourly Exit Rate	223	223
Input Volume	220	220
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

158: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.8	0.7	2.2
Vehicles Exited	368	392	760
Hourly Exit Rate	368	392	760
Input Volume	360	401	761
% of Volume	102	98	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

159: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	1111	1111
Hourly Exit Rate	1111	1111
Input Volume	1100	1100
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

160: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	164	164
Hourly Exit Rate	164	164
Input Volume	160	160
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

161: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2

Vehicles Exited	767	767
Hourly Exit Rate	767	767
Input Volume	760	760
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

162: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	0.9	0.1	0.5
Vehicles Exited	163	166	329
Hourly Exit Rate	163	166	329
Input Volume	160	160	321
% of Volume	102	103	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

163: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	862	862
Hourly Exit Rate	862	862
Input Volume	860	860
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

164: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.6	0.7	1.1
Vehicles Exited	365	390	755
Hourly Exit Rate	365	390	755
Input Volume	360	400	760

% of Volume	101	98	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

165: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	1	5.6	3.2
Vehicles Exited	1192	1113	2305
Hourly Exit Rate	1192	1113	2305
Input Volume	1200	1100	2300
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	109	109
Hourly Exit Rate	109	109
Input Volume	110	110
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	156	156
Hourly Exit Rate	156	156
Input Volume	160	160
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	163	163
Hourly Exit Rate	163	163
Input Volume	160	160
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

172: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.9	4.9
Vehicles Exited	437	437
Hourly Exit Rate	437	437
Input Volume	430	430
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	90	90
Hourly Exit Rate	90	90
Input Volume	90	90
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3	3
Vehicles Exited	286	286
Hourly Exit Rate	286	286
Input Volume	279	279
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	101	101
Hourly Exit Rate	101	101
Input Volume	100	100
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

177: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.8	1.4	2.6
Vehicles Exited	367	393	760
Hourly Exit Rate	367	393	760
Input Volume	360	401	761
% of Volume	102	98	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

178: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.7	2.6	3.6

Vehicles Exited	366	394	760
Hourly Exit Rate	366	394	760
Input Volume	360	401	761
% of Volume	102	98	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

179: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	592	592
Hourly Exit Rate	592	592
Input Volume	590	590
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	112	112
Hourly Exit Rate	112	112
Input Volume	110	110
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	248	248
Hourly Exit Rate	248	248
Input Volume	250	250

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	343	343
Hourly Exit Rate	343	343
Input Volume	340	340
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	117	117
Hourly Exit Rate	117	117
Input Volume	110	110
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

184: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.3	1.7	3.6
Vehicles Exited	394	366	760
Hourly Exit Rate	394	366	760
Input Volume	401	360	761
% of Volume	98	102	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

185: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	109	109
Hourly Exit Rate	109	109
Input Volume	110	110
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

186: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	681	681
Hourly Exit Rate	681	681
Input Volume	670	670
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

187: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	54	54
Hourly Exit Rate	54	54
Input Volume	51	51
% of Volume	106	106
Denied Entry Before	0	0
Denied Entry After	0	0

188: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	47	47
Hourly Exit Rate	47	47
Input Volume	51	51
% of Volume	93	93
Denied Entry Before	0	0
Denied Entry After	0	0

189: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.2	1.4	1.2	1.2
Vehicles Exited	734	8	302	1044
Hourly Exit Rate	734	8	302	1044
Input Volume	730	8	290	1028
% of Volume	101	97	104	102
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

190: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	2561	2561
Hourly Exit Rate	2561	2561
Input Volume	2550	2550
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

194: Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1	1	1

Vehicles Exited	762	191	953
Hourly Exit Rate	762	191	953
Input Volume	756	190	947
% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

195: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.5	2.7	1.7
Vehicles Exited	1746	370	2116
Hourly Exit Rate	1746	370	2116
Input Volume	1742	380	2122
% of Volume	100	97	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

197: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	868	868
Hourly Exit Rate	868	868
Input Volume	870	870
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

198: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	1037	1037
Hourly Exit Rate	1037	1037
Input Volume	1020	1020

% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	1615	1615
Hourly Exit Rate	1615	1615
Input Volume	1610	1610
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

201: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	2	0.1	0.4	1.5
Vehicles Exited	1685	26	871	2582
Hourly Exit Rate	1685	26	871	2582
Input Volume	1680	26	870	2576
% of Volume	100	102	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

202: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	869	869
Hourly Exit Rate	869	869
Input Volume	870	870
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	188	188
Hourly Exit Rate	188	188
Input Volume	190	190
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

300: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.9	2.7	2.8
Vehicles Exited	706	962	1668
Hourly Exit Rate	706	962	1668
Input Volume	700	970	1670
% of Volume	101	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	2416	2416
Hourly Exit Rate	2416	2416
Input Volume	2400	2400
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

500: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.1	0	0
Total Del/Veh (s)	0.7	2.1	1.7
Vehicles Exited	419	1183	1602
Hourly Exit Rate	419	1183	1602
Input Volume	420	1180	1599
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

501: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.2	3.8	3.6
Vehicles Exited	642	768	1410
Hourly Exit Rate	642	768	1410
Input Volume	640	760	1400
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	3.3
Total Del/Veh (s)	64.2
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	23
Denied Entry Before	0
Denied Entry After	108

Queuing ar AM Peak Hour

2042 Alterr 9/3/2014

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	165	373	400	428	219	324	417	446	445	88	323	166	83	228
Average Queue (ft)	66	189	220	253	56	172	223	249	255	24	169	65	25	103
95th Queue (ft)	135	318	361	392	158	289	378	397	404	62	286	134	64	191
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	530				410	580				530	330		300	
Storage Blk Time (%)		0		1					0		1			0
Queuing Penalty (veh)		0		1					0		1			0

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	L	T	T	TR
Maximum Queue (ft)	146	224	712	944	345	232	258	266	393	396	390	58	102	110	111	79	73	40	104	96	88	121
Average Queue (ft)	50	109	141	172	170	120	165	161	183	203	209	15	35	39	40	30	22	3	32	38	27	36
95th Queue (ft)	113	212	494	651	316	213	238	233	322	337	338	42	77	80	84	62	55	21	78	76	64	86
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923		3946	3946	3946
Upstream Blk Time (%)			0	0																		
Queuing Penalty (veh)			0	0																		
Storage Bay Dist (ft)	715				355	920	920	920				750	800						550			
Storage Blk Time (%)					0																	
Queuing Penalty (veh)					1																	

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	307	431	141	506	220	231	315	313	308	541	554
Average Queue (ft)	189	189	27	496	128	53	171	158	95	288	335
95th Queue (ft)	310	367	91	505	277	140	270	255	239	484	528
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				47							

Queuing Penalty (veh)				368					
Storage Bay Dist (ft)	250		90		160	185		290	
Storage Blk Time (%)	6	3	1	64	0	0	6	0	10
Queuing Penalty (veh)	22	6	6	109	0	0	3	0	8

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	186	245	300	274
Average Queue (ft)	94	110	125	94
95th Queue (ft)	167	201	252	214
Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	262	590	3751	85
Average Queue (ft)	121	504	3082	25
95th Queue (ft)	230	819	4656	60
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)			50	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)		530		
Storage Blk Time (%)		0	58	
Queuing Penalty (veh)		0	144	

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	L	T	T	T	>
Maximum Queue (ft)	58	64	199	149	151	250	151	141	139	120	65	58	92	148	175	124	183
Average Queue (ft)	9	19	95	68	80	127	63	61	59	40	23	15	25	76	81	33	74

95th Queue (ft)	36	51	179	122	130	212	123	115	111	93	56	46	68	133	145	92	138
Link Distance (ft)			1111			1079		737	737	737				1039	1039	1039	
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	300	300		300	300		700				700	700	550				650
Storage Blk Time (%)			0			0											
Queuing Penalty (veh)			0			0											

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	339	366	556	465	322	176	311	360	2142	2114	2081	410	253	283	460	348	343	260	191	218	310	277	264
Average Queue (ft)	260	276	304	222	203	67	191	339	1290	1282	1279	377	180	199	236	214	186	103	75	119	193	175	141
95th Queue (ft)	431	459	741	425	291	128	291	431	2433	2398	2371	511	283	309	451	314	292	227	170	195	277	255	234
Link Distance (ft)			4930	4930	4930				3438	3438	3438				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)																							
Queuing Penalty (veh)																							
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)	7	21			0		1	2	49		48	4	5	17	2		5	0					
Queuing Penalty (veh)	23	65			0		5	11	221		218	20	16	53	6		13	1					

Intersection: 8: Coffee Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	>	L	T	T	>	L	L	>	L	L	>
Maximum Queue (ft)	414	79	73	127	91	224	279	525	70	85	131	159	162	107
Average Queue (ft)	196	20	15	39	24	68	87	260	11	30	51	72	89	41
95th Queue (ft)	341	58	47	96	64	162	332	527	44	69	111	130	142	90
Link Distance (ft)		902	902			952	952			860	860			901
Upstream Blk Time (%)							0							
Queuing Penalty (veh)							0							
Storage Bay Dist (ft)	600			600	650			650	500			500	500	
Storage Blk Time (%)								2						
Queuing Penalty (veh)								4						

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB

Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	172	253	326	283	193	144	359	741	709	648	312	332	300	237	128	323	469	348
Average Queue (ft)	65	115	203	167	61	57	195	453	447	392	173	214	129	126	53	184	190	234
95th Queue (ft)	153	199	292	256	160	116	373	715	703	636	279	304	235	214	104	273	407	373
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)			0				0	29			0	1				0	0	9
Queuing Penalty (veh)			1				1	52			0	2				0	1	20

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	120	178	201	181	188	240	279	198	126	187	154	235	134
Average Queue (ft)	45	88	95	81	99	117	130	101	44	83	61	90	53
95th Queue (ft)	102	150	172	153	163	204	225	178	98	154	122	180	109
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								1	0		0	14	1
Queuing Penalty (veh)								0	0		0	24	2

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	144	100	114	287	312	65	104	167	177	140	209	374	428
Average Queue (ft)	57	29	42	116	186	14	45	67	83	64	64	151	231
95th Queue (ft)	115	72	84	238	284	45	91	133	146	114	142	296	372
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		
Storage Blk Time (%)				0	0							1	
Queuing Penalty (veh)				0	1							0	

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	243	276	201	164	110	330	295	230	47	515	628	264	179	222	442	498	360
Average Queue (ft)	143	179	98	47	32	221	189	108	16	338	376	94	75	37	276	274	224
95th Queue (ft)	225	254	167	121	75	306	272	215	41	497	608	181	147	136	405	481	393
Link Distance (ft)		1374	1374	1374		1274	1274	1274			2052	2052	2052		466	466	
Upstream Blk Time (%)															1	7	
Queuing Penalty (veh)															0	0	
Storage Bay Dist (ft)	300				300				300	500				300			300
Storage Blk Time (%)	0	0				1		0		1	2				7	1	15
Queuing Penalty (veh)	0	0				0		0		5	10				2	5	41

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	199	388	134	1156	210	309	500	234	517	160
Average Queue (ft)	95	188	58	562	168	77	257	145	216	101
95th Queue (ft)	172	333	134	1191	274	213	431	257	446	189
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			6	60	4	0	13	6	25	1
Queuing Penalty (veh)			36	161	17	0	9	23	86	3

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	89	79	144	90	110	58	174	266	157	66	187	165
Average Queue (ft)	33	25	67	27	37	20	80	101	15	20	92	74
95th Queue (ft)	76	63	119	70	84	49	147	205	74	53	154	134
Link Distance (ft)		1163			1019			1058	1058		414	414
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300	300		300	300			300		

Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	152	168	355	203	157	132	117
Average Queue (ft)	85	84	183	57	53	63	53
95th Queue (ft)	136	143	339	196	117	110	89
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		300	400				150
Storage Blk Time (%)			2	0		0	0
Queuing Penalty (veh)			5	0		0	0

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	259	257	272	289	232	151	111	129	136	265	277	250	62	119	141	152	191	216	104	49	63	228	223	336
Average Queue (ft)	132	140	149	172	106	57	41	66	68	153	165	138	14	48	65	72	97	111	38	8	20	118	108	168
95th Queue (ft)	217	216	233	256	203	112	97	121	124	231	247	219	44	99	118	130	164	187	78	32	50	196	188	293
Link Distance (ft)			1066	1066	1066				1606	1606	1606	1606			726	726	726	726				1218	1218	
Upstream Blk Time (%)																								
Queuing Penalty (veh)																								
Storage Bay Dist (ft)	800	800				1000	970	970					850	720					840	520	520			720
Storage Blk Time (%)																								
Queuing Penalty (veh)																								

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	157	98	217	126	128
Average Queue (ft)	66	36	98	49	59
95th Queue (ft)	122	79	179	97	103
Link Distance (ft)		2884	5348	826	

Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	300				300											
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 18: Bentley & NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B132	B132	NB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	T	T	L	T	R	L	T	R
Maximum Queue (ft)	290	244	245	57	84	388	369	47	112	113	174	152	76	70	159	63
Average Queue (ft)	142	117	123	15	25	204	207	7	4	4	79	47	19	16	61	17
95th Queue (ft)	243	214	210	40	63	335	323	28	115	115	152	113	53	47	121	47
Link Distance (ft)		2753	2753			2387	2387		1126	1126		1462			1179	
Upstream Blk Time (%)										0						
Queuing Penalty (veh)										0						
Storage Bay Dist (ft)	680			580	770			720			200		300	150		300
Storage Blk Time (%)											1	0			0	
Queuing Penalty (veh)											1	0			0	

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	114	158	182	104	133	104	112	107	129	123	97
Average Queue (ft)	42	61	79	41	64	42	52	42	53	36	42
95th Queue (ft)	88	120	146	78	113	83	95	85	99	81	77
Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)									1	1	0
Queuing Penalty (veh)									2	4	1

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	856	260	340	436	277	340	366	256	667	549

Average Queue (ft)	83	360	222	205	180	109	208	211	79	413	332
95th Queue (ft)	129	711	300	353	374	206	304	319	166	627	514
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	50	54	17	6	1			1	0		
Queuing Penalty (veh)	249	205	49	14	1			7	0		

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	122	262	277	196	186	210	178	189	170	105	142	205	152
Average Queue (ft)	46	140	147	102	89	104	80	113	67	45	45	95	56
95th Queue (ft)	93	232	236	169	161	183	156	171	129	87	102	163	119
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)		1		0	0		0	0	19	2	1	9	0
Queuing Penalty (veh)		0		1	0		0	0	73	10	3	15	0

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	238	105	136	279	352	267	162	253	354	364	193	376	572	582
Average Queue (ft)	116	33	55	165	121	97	59	125	217	223	35	119	329	346
95th Queue (ft)	213	85	109	270	256	190	119	218	336	337	110	281	511	529
Link Distance (ft)		5602			2173	2173			1383	1383			2186	2186
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	225		225	225			225	400			300	400		
Storage Blk Time (%)	2			6	0		0	0	0	2		0	4	
Queuing Penalty (veh)	2			8	0		0	0	0	1		0	5	

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	53	59	60	82	86	95	176	179	74	198	165	62
Average Queue (ft)	14	13	15	29	31	25	81	61	24	93	61	13
95th Queue (ft)	41	41	41	66	70	65	149	133	59	166	132	45
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	61	107	119	110	133	102	135	112	110	124	217	139	126	143	115	285
Average Queue (ft)	13	41	44	40	57	33	53	47	37	49	88	48	51	63	19	130
95th Queue (ft)	43	86	92	88	102	77	105	97	86	101	162	104	101	120	70	238
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	600				700	600				600
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 25: NCC SPUI & Roselle

Movement	NB	NB	NB	NB	SB	SB	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	>	L	T	T	>	L	L	>	L	L	>
Maximum Queue (ft)	212	212	173	177	137	154	177	66	43	23	167	102	122	123
Average Queue (ft)	108	87	31	59	60	67	70	8	8	2	72	37	58	48
95th Queue (ft)	188	169	104	127	118	127	140	35	29	12	135	83	97	99
Link Distance (ft)		671	671			1058	1058				1221			1160
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	400			400	550			550	500	500		500	500	
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 27: NCC & Albers Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T	R	L	T	R
Maximum Queue (ft)	470	452	128	137	85	159	154	198	188	61	166	485	306	184	605	21
Average Queue (ft)	274	264	53	61	24	67	74	95	96	13	21	230	56	20	300	1
95th Queue (ft)	453	432	110	116	62	136	132	165	162	42	82	400	176	107	563	21
Link Distance (ft)			1126	1126				2965	2965			2741			1383	1383
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	920	920			580	720	720			580	200		300	200		
Storage Blk Time (%)												13			21	
Queuing Penalty (veh)												31			4	

Intersection: 28: NCC & SMITH

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	146	87	96	32	62	134	129	62	108	79	92
Average Queue (ft)	63	18	31	3	15	53	53	10	33	22	36
95th Queue (ft)	119	57	77	18	46	111	110	39	72	59	71
Link Distance (ft)		5343	5343			4038	4038		1306	1066	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	870			670	650			650			630
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 29: NCC & SR 120/108

Movement	EB	WB	NB
Directions Served	TR	LT	L
Maximum Queue (ft)	115	116	36
Average Queue (ft)	45	19	2
95th Queue (ft)	92	73	17
Link Distance (ft)	2713	1095	1613
Upstream Blk Time (%)			
Queuing Penalty (veh)			

Storage Bay Dist (ft)														
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	70	74	68	60	126	79	94	113	42	64	132	113	148	59
Average Queue (ft)	20	25	15	17	54	15	29	38	4	18	61	36	60	8
95th Queue (ft)	54	58	47	45	103	54	74	92	25	52	112	85	122	36
Link Distance (ft)		882		1236		1039	1039	1039			2422	2422	2422	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	300		300		300				300	300				300
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	90	91	141	153	90	203	158	96	100	118	185	198	65
Average Queue (ft)	30	31	62	60	30	96	62	30	32	57	82	99	17
95th Queue (ft)	73	70	117	116	69	169	132	66	76	97	158	170	48
Link Distance (ft)		430		638		834	834				757	757	757
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	300		300		300			400	450	450			
Storage Blk Time (%)													
Queuing Penalty (veh)													

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	88	81	133	72	97	90	97	60	97	140	216	58
Average Queue (ft)	31	29	54	21	37	24	41	17	38	47	97	18
95th Queue (ft)	71	62	104	52	79	65	83	49	80	103	178	48

Link Distance (ft)		1262		2030		952	952			1360	1360	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	147	95	103	118	91	217	183	45	122	112	111	59
Average Queue (ft)	58	32	34	51	29	94	61	5	46	35	41	8
95th Queue (ft)	111	71	78	93	71	180	135	23	98	89	94	33
Link Distance (ft)		756		1081		1259	1259			902	902	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)						0						
Queuing Penalty (veh)						0						

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	168	120	126	127	95	196	312	153	102	155	167	48
Average Queue (ft)	67	50	60	52	30	66	138	20	37	59	70	10
95th Queue (ft)	124	95	112	98	72	142	261	86	82	116	129	35
Link Distance (ft)		636		496		370	370			1357	1357	1357
Upstream Blk Time (%)							0	0				
Queuing Penalty (veh)							0	0				
Storage Bay Dist (ft)	300		300		300			300	300			
Storage Blk Time (%)						0	1					
Queuing Penalty (veh)						0	0					

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T

Maximum Queue (ft)	101	221	274	225	112	148	166
Average Queue (ft)	35	98	115	95	39	58	78
95th Queue (ft)	77	172	212	179	85	123	139
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Davis & Claribel Realigned (N)

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	65	72	27	4	23
Average Queue (ft)	23	24	2	0	1
95th Queue (ft)	55	57	13	4	11
Link Distance (ft)	662	702		778	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			50		50
Storage Blk Time (%)			0	0	0
Queuing Penalty (veh)			0	0	0

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	126	94	178	94	228	259	88	163	310
Average Queue (ft)	45	39	75	27	86	115	31	53	135
95th Queue (ft)	97	80	138	67	178	212	70	114	251
Link Distance (ft)		1110	417		1218	1218		1028	1028
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	T	T	R	L	L	T	T
Maximum Queue (ft)	122	85	122	235	88	70	104	117	135
Average Queue (ft)	47	33	40	109	27	18	41	32	53
95th Queue (ft)	97	68	87	195	67	52	77	88	108
Link Distance (ft)	437		1878	1878				1205	1205
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		300			300	890	890		
Storage Blk Time (%)				0					
Queuing Penalty (veh)				0					

Intersection: 40: NCC

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	LT	TR	LT	TR	LT	TR
Maximum Queue (ft)	60	60	3	55	44	63	44
Average Queue (ft)	7	8	0	9	4	10	5
95th Queue (ft)	33	36	3	36	25	39	26
Link Distance (ft)	2783	3328	3328	611	611	815	815
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 56:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 57:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 58:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 62: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)

Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 63:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 77:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 81:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)

95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 84: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 90: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	376	177
Average Queue (ft)	18	5
95th Queue (ft)	161	83
Link Distance (ft)	586	586
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 101:

Movement

Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 117: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 118:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 122: NCC

Movement	B155	B155	B155
Directions Served	T	T	
Maximum Queue (ft)	46	26	4
Average Queue (ft)	2	1	0
95th Queue (ft)	38	13	4
Link Distance (ft)	1066	1066	1066
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 125: NCC SPUI & NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 128:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)

Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 189:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 194:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 195:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)

Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 201:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary
Network wide Queuing Penalty: 2522

SimTraffic Performance Report
2042 Alternative 2B PM Peak Hour
9/3/2014

1: Carver & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1	0.2	0.9	0	0	0	2.2	0.6	0.5	2.4	0.4	0.3	0.3
Total Del/Veh (s)	59.9	43.7	14.8	56.8	34.5	13.8	53.9	72.1	54.3	51	46.3	26.1	40.3
Vehicles Exited	64	1585	263	133	1748	84	159	111	194	142	88	18	4589
Hourly Exit Rate	64	1585	263	133	1748	84	159	111	194	142	88	18	4589
Input Volume	60	1580	270	140	1750	80	160	110	190	150	90	20	4600
% of Volume	107	100	97	95	100	105	100	101	102	95	98	89	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

2: Tully Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.1	0
Total Del/Veh (s)	59.1	61.2	31.3	51.3	18.4	4.4	60.1	41.4	9.7	79.1	94	41.7	41.7
Vehicles Exited	29	1583	334	522	1345	60	580	217	881	161	214	38	5964
Hourly Exit Rate	29	1583	334	522	1345	60	580	217	881	161	214	38	5964
Input Volume	30	1570	320	530	1350	60	580	220	860	160	210	40	5930
% of Volume	97	101	104	98	100	100	100	99	102	101	102	96	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.6	0.6	0.6	0	0	0	0	0	0	0.4	0.2	0.2	0.3
Total Del/Veh (s)	385	296	284	119	88.2	47.6	68.8	42.9	35.3	842	84.2	76.5	208
Vehicles Exited	194	396	39	18	444	99	80	614	20	216	677	295	3092
Hourly Exit Rate	194	396	39	18	444	99	80	614	20	216	677	295	3092
Input Volume	210	440	40	20	450	100	80	610	20	330	690	300	3290
% of Volume	92	90	98	89	99	99	100	101	99	66	98	98	94
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0
Total Del/Veh (s)	20.7	5.2	9.7	0.7	13.5	10.5
Vehicles Exited	106	22	695	265	736	1824
Hourly Exit Rate	106	22	695	265	736	1824
Input Volume	110	20	690	270	750	1840
% of Volume	96	109	101	98	98	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

5: SR 108 & Patterson Rd/SR 108 (Patterson Rd) Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.2	0	0.6	0.6	0	0.3
Total Del/Veh (s)	42.1	26	31.9	57.5	7.8	41.1
Vehicles Exited	617	18	111	565	266	1577
Hourly Exit Rate	617	18	111	565	266	1577
Input Volume	774	20	110	570	270	1744
% of Volume	80	89	101	99	99	90
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 Performance by movement

Movement	EBL	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	26.1	22.8	26.6	0.2	26.2	19.8	14.6	8.3	26.1	23.2	10.6	18.5
Vehicles Exited	237	341	289	1	200	197	666	692	170	515	208	3516
Hourly Exit Rate	237	341	289	1	200	197	666	692	170	515	208	3516
Input Volume	240	340	290	1	200	200	660	700	170	520	210	3530
% of Volume	99	100	100	133	100	99	101	99	100	99	99	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	197	194	194	354	338	345	0.4	0.2	0.3	2.1	0.6	0.7	131
Total Del/Veh (s)	630	671	630	1043	66.5	18.9	410	256	260	105	58.8	64.8	347
Vehicles Exited	269	1265	344	299	747	220	342	1059	401	728	1328	290	7292
Hourly Exit Rate	269	1265	344	299	747	220	342	1059	401	728	1328	290	7292
Input Volume	380	1790	480	530	1010	290	400	1170	440	730	1340	290	8849
% of Volume	71	71	72	56	74	76	86	91	91	100	99	100	82
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	68	321	84	154	282	80	0	0	0	0	0	0	989

8: Coffee Rd Performance by movement

Movement	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NET	NER2	SWL	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	31.1	13	15.4	36.5	22.5	15.7	32.1	0.6	25.4	18.5	35.3	23.4
Vehicles Exited	305	261	421	46	295	263	701	2	283	350	32	2959
Hourly Exit Rate	305	261	421	46	295	263	701	2	283	350	32	2959
Input Volume	300	260	420	50	291	260	710	1	280	350	30	2952
% of Volume	102	100	100	92	101	101	99	200	101	100	108	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

9: Coffee Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.4	0.2	1.4	1	0.1	0.1	2.6	0.1	0.2	2.8	0.2	2.9	0.7
Total Del/Veh (s)	79.2	62.5	16.1	60.9	43.6	24.4	67.8	40.4	30.5	55.8	38.7	27.9	50
Vehicles Exited	504	1885	469	127	1151	147	351	505	193	138	277	387	6134
Hourly Exit Rate	504	1885	469	127	1151	147	351	505	193	138	277	387	6134
Input Volume	510	1880	470	130	1150	150	340	500	200	140	270	380	6120
% of Volume	99	100	100	98	100	98	103	101	96	98	103	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.3	0.2	0.2	0.3	0.2	0.2	1.4	0.3	0.1	2.2	0.4	1.9	0.4
Total Del/Veh (s)	52	34.6	30.6	53.5	22.6	17.5	55.3	31.3	42.1	74	39.3	7.8	38.4

Vehicles Exited	112	721	170	437	450	48	190	164	328	62	93	48	2823
Hourly Exit Rate	112	721	170	437	450	48	190	164	328	62	93	48	2823
Input Volume	110	710	170	440	440	50	190	170	320	60	100	50	2810
% of Volume	102	102	100	99	102	96	100	96	103	103	93	96	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

11: Oakdale Rd & Claribel Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.6	0.4	0.2	0.4	0.2	3.2	0	0	0	0.3	0.1	0.2	0.3
Total Del/Veh (s)	31.9	43.6	12.6	36.7	48.4	3.7	54.1	25.3	13.1	56.7	44.5	42.2	31.1
Vehicles Exited	87	18	140	438	19	62	187	716	606	81	683	53	3090
Hourly Exit Rate	87	18	140	438	19	62	187	716	606	81	683	53	3090
Input Volume	90	20	140	440	20	60	190	710	610	80	690	50	3101
% of Volume	97	89	100	100	94	103	98	101	99	101	99	106	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

12: Oakdale Rd & Claratina Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.2	1	2.7	3	0.1	3	0.4	0.2	0.2	2.8	0.6	2.9	1.2
Total Del/Veh (s)	57.7	46.2	11.4	67	55.1	10	47.3	22	16.2	57.4	41.7	14.5	35.4
Vehicles Exited	431	787	1028	56	553	39	601	724	106	40	660	304	5329
Hourly Exit Rate	431	787	1028	56	553	39	601	724	106	40	660	304	5329
Input Volume	430	780	1030	60	550	40	610	720	100	40	660	300	5318
% of Volume	100	101	100	93	101	98	99	101	106	101	100	101	100
Denied Entry Before	0	0	1	0	0	0	0	0	0	0	0	0	1
Denied Entry After	0	0	1	0	0	0	0	0	0	0	0	0	1

13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.2	0.4	0.5	0.5	3.9	1	0.9	2.9	1.9	2.7	1.1
Total Del/Veh (s)	91	85.8	79.9	195	159	126	99.8	131	124	103	94.2	58.4	109
Vehicles Exited	259	513	44	47	359	150	71	308	51	274	203	178	2457
Hourly Exit Rate	259	513	44	47	359	150	71	308	51	274	203	178	2457
Input Volume	260	520	40	50	360	150	70	310	50	280	200	180	2470

% of Volume	100	99	111	94	100	100	101	99	102	98	102	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

14: Roselle & Claribel Realigned Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.6	1	3.5	3.8	0.6	3.8	0	0	0	0	0	0	0.9
Total Del/Veh (s)	41.7	31.8	8.9	35.6	18.9	2.4	41	26.9	7.4	37.8	24.4	12	26.1
Vehicles Exited	18	186	239	150	60	22	219	499	49	41	404	23	1910
Hourly Exit Rate	18	186	239	150	60	22	219	499	49	41	404	23	1910
Input Volume	20	190	240	160	60	20	220	510	50	40	410	20	1941
% of Volume	89	98	99	94	100	109	100	98	98	103	98	114	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

15: Claus Rd & SR 108 (Atchison St)#5/SR 108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.9	3.5	0.6
Total Del/Veh (s)	21.8	16.1	28.9	4.5	25.1	9.7	17
Vehicles Exited	642	271	343	436	97	327	2116
Hourly Exit Rate	642	271	343	436	97	327	2116
Input Volume	640	270	340	440	100	330	2119
% of Volume	100	100	101	99	97	99	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

16: Claus Rd & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	46.5	29.9	6.7	56.2	37.9	8.4	61.6	35	7.5	56.7	50.6	21.8	37.2
Vehicles Exited	498	1044	230	431	974	39	381	303	215	58	406	433	5012
Hourly Exit Rate	498	1044	230	431	974	39	381	303	215	58	406	433	5012
Input Volume	500	1051	230	440	980	40	380	310	220	60	422	440	5072
% of Volume	100	99	100	98	99	98	100	98	98	97	96	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

17: Patterson Rd & Crane Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	2	0.8	0.3	0.3	0.8	3.6	1.5
Total Del/Veh (s)	25.7	8.4	32.5	21.9	23	9.7	20.5
Vehicles Exited	364	258	293	102	132	260	1409
Hourly Exit Rate	364	258	293	102	132	260	1409
Input Volume	360	250	290	100	140	260	1400
% of Volume	101	103	101	102	94	100	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

18: Bentley & NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	3.6	0.6	3.7	3.6	1.1	3.5	0.7
Total Del/Veh (s)	58	31.6	13.2	45.5	29.9	6.1	49	22.4	10.5	44.9	32.7	19.4	30
Vehicles Exited	117	1055	158	84	1024	20	101	119	74	18	150	341	3261
Hourly Exit Rate	117	1055	158	84	1024	20	101	119	74	18	150	341	3261
Input Volume	120	1050	160	90	1020	20	100	110	70	20	150	340	3250
% of Volume	98	100	99	94	100	99	101	108	105	89	100	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.5	0.6	0.6	3.8	0.4	0.4	2	0.4	2	0.7
Total Del/Veh (s)	28.5	12	8.5	33.3	17.6	10.1	21.8	16.4	8.6	21.8	16.3	6	15.5
Vehicles Exited	93	577	50	41	569	84	105	60	85	98	61	114	1937
Hourly Exit Rate	93	577	50	41	569	84	105	60	85	98	61	114	1937
Input Volume	100	570	50	40	570	80	110	60	80	100	60	110	1930
% of Volume	93	101	100	103	100	105	95	100	106	98	102	104	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.6	0.6	0.7	0.4	0.2	0.2	2.4	1.5	2.4	0.2	0.2	0.2	0.7
Total Del/Veh (s)	159	82.6	75.3	95.2	64.5	19.9	67.8	72.2	24.8	99.1	92.6	87	72.6
Vehicles Exited	70	486	80	139	399	413	142	599	181	325	458	80	3372
Hourly Exit Rate	70	486	80	139	399	413	142	599	181	325	458	80	3372
Input Volume	70	480	80	140	400	410	140	600	180	330	460	80	3371
% of Volume	100	101	100	99	100	101	101	100	101	99	100	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.6	0.2	0.2	0.4	0.2	0.1	2	0.8	2	0.3	0.3	0.3	0.5
Total Del/Veh (s)	38.7	24.9	18.8	41.2	23.2	17.8	38.9	29.5	11	43.5	30.6	11.5	25.6
Vehicles Exited	96	576	193	129	648	91	157	188	204	88	143	102	2615
Hourly Exit Rate	96	576	193	129	648	91	157	188	204	88	143	102	2615
Input Volume	100	580	190	130	640	90	150	190	200	90	140	100	2600
% of Volume	96	99	101	99	101	101	105	99	102	98	102	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.6	0.6	0.5	3.6	0.2	3.6	0	0	0	2.4	0.3	0.4	0.6
Total Del/Veh (s)	55.1	46.4	35.2	67.3	38.6	13.4	55.1	43.6	15.4	57.9	39	35.5	41.3
Vehicles Exited	130	399	120	91	104	136	56	929	198	208	926	127	3424
Hourly Exit Rate	130	399	120	91	104	136	56	929	198	208	926	127	3424
Input Volume	130	400	120	90	100	140	60	920	200	210	930	120	3420
% of Volume	100	100	100	101	104	97	93	101	99	99	100	106	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

23: Albers & Claribel Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.4	4.1	2.4	0.3	0.3	3	0.2	0.2	3.2	0.2	3.3	0.7
Total Del/Veh (s)	25	28	4	23.3	22.9	6.5	25.7	10.4	5	23.5	9.2	3.7	11.5

Vehicles Exited	20	19	51	82	20	32	29	603	66	46	474	20	1462
Hourly Exit Rate	20	19	51	82	20	32	29	603	66	46	474	20	1462
Input Volume	20	20	50	80	20	30	30	610	70	50	480	20	1481
% of Volume	99	94	102	102	99	108	97	99	94	92	99	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

24: Oakdale Rd & NCC SPUI Performance by movement

Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	25.4	0.9	30.6	16.4	0.4	26.8	28.6	19.9	11.1	28.2	20.4	13.4	20.4
Vehicles Exited	779	1	192	281	1	174	20	554	325	123	620	514	3584
Hourly Exit Rate	779	1	192	281	1	174	20	554	325	123	620	514	3584
Input Volume	780	1	190	280	1	180	20	551	330	120	630	520	3603
% of Volume	100	133	101	100	100	97	99	101	99	102	98	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

25: NCC SPUI & Roselle Performance by movement

Movement	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NET	NER2	SWL	SWT	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.2	0	0	0.1	0	0	0
Total Del/Veh (s)	19.1	13.3	7.5	25.9	18.7	6.7	27.7	0.3	20.3	26.7	0	25.1	17.4
Vehicles Exited	173	554	272	100	647	46	71	14	358	107	8	147	2497
Hourly Exit Rate	173	554	272	100	647	46	71	14	358	107	8	147	2497
Input Volume	170	560	270	100	661	50	70	13	360	110	7	150	2521
% of Volume	102	99	101	100	98	92	101	106	99	97	110	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

26: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	873	873
Hourly Exit Rate	873	873
Input Volume	870	870

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

27: NCC & Albers Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.6	0.6	0.6	0	0	0	0.1
Total Del/Veh (s)	39.3	22.2	3.9	32.8	34	11.1	46.5	38.1	12	50.5	32.9	16.9	28.8
Vehicles Exited	719	412	21	178	341	26	19	438	208	21	349	771	3503
Hourly Exit Rate	719	412	21	178	341	26	19	438	208	21	349	771	3503
Input Volume	720	401	20	180	340	20	20	440	210	20	350	770	3491
% of Volume	100	103	104	99	100	128	94	100	99	104	100	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & SMITH Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0.8	0.6	3.7	0.6
Total Del/Veh (s)	19.2	9.2	4.8	23	16	4.8	14.3	13.3	4.9	14.8	14.3	5.1	12.2
Vehicles Exited	188	433	20	20	332	20	19	25	19	19	59	191	1345
Hourly Exit Rate	188	433	20	20	332	20	19	25	19	19	59	191	1345
Input Volume	180	430	20	20	330	20	20	30	20	20	60	190	1341
% of Volume	104	101	99	99	101	99	94	84	94	94	98	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.3	0.3	0	0	0	0	0.1
Total Del/Veh (s)	10.4	6.1	7	11.6	2.3	4.9	7.6
Vehicles Exited	267	54	315	256	79	392	1363
Hourly Exit Rate	267	54	315	256	79	392	1363
Input Volume	270	50	320	260	80	390	1370
% of Volume	99	108	99	99	98	101	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

30: SR 108 (McHenry Ave)#2 & Charity Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.2	0.3	4	0.2	0.3	0	0	0	1.5	0.2	1.6	0.3
Total Del/Veh (s)	19.7	16.8	6.1	20.5	18.3	7.1	22.7	9.8	4.9	24.5	9.7	3.2	10.8
Vehicles Exited	56	12	134	50	11	49	100	958	49	49	706	29	2203
Hourly Exit Rate	56	12	134	50	11	49	100	958	49	49	706	29	2203
Input Volume	60	10	130	50	10	50	100	951	50	50	720	30	2211
% of Volume	93	117	103	100	107	98	100	101	98	98	98	97	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

31: SR 108 (McHenry Ave)#3 & Galaxy Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	0.5	0.5	3.4	0.9	0.9	2.4	0.4	2.3	0	0	0	0.8
Total Del/Veh (s)	49.5	58.6	15	40.3	48.2	26.9	50.3	26.3	6.2	46.6	14.3	2	25.3
Vehicles Exited	101	10	92	192	10	288	49	1169	199	288	792	67	3257
Hourly Exit Rate	101	10	92	192	10	288	49	1169	199	288	792	67	3257
Input Volume	100	10	90	190	10	290	50	1170	200	290	791	70	3261
% of Volume	101	98	103	101	98	99	98	100	100	99	100	95	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

32: Coffee Rd & Frontage Road North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.9	0.2	0.2	0.2	0.2	0.2	0	0	0	3.2	0.3	3.2	0.3
Total Del/Veh (s)	17.3	16.8	5	19.1	15.6	6.2	24.1	9.4	5	21.8	6.6	3.4	9.6
Vehicles Exited	48	10	52	93	10	45	48	850	101	50	456	51	1814
Hourly Exit Rate	48	10	52	93	10	45	48	850	101	50	456	51	1814
Input Volume	50	10	50	100	10	50	50	850	100	50	450	50	1820
% of Volume	96	98	104	93	98	90	96	100	101	100	101	102	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

33: Coffee Rd & Frontage Road South Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.5	0.4	3.9	0.3	0.3	2.7	0.4	2.8	0	0	0	0.6
Total Del/Veh (s)	22.5	19.1	6.4	19.1	20.9	8.9	25	11.2	4.9	25.3	9.5	4.3	11.7
Vehicles Exited	96	10	52	49	9	97	52	790	53	98	725	102	2133
Hourly Exit Rate	96	10	52	49	9	97	52	790	53	98	725	102	2133
Input Volume	100	10	50	50	10	100	50	780	50	100	720	100	2120
% of Volume	96	98	104	98	88	97	104	101	106	98	101	102	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

34: Oakdale Rd & Frontage Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.5	0.3	3.9	0.3	0.3	2.7	0.6	2.7	0	0	0	0.7
Total Del/Veh (s)	25.4	18.3	8.5	24.3	23.2	7.7	23.1	9	3.1	26.6	12.4	4.3	12.1
Vehicles Exited	66	9	72	56	10	60	108	771	96	98	884	112	2342
Hourly Exit Rate	66	9	72	56	10	60	108	771	96	98	884	112	2342
Input Volume	70	10	70	60	10	60	110	770	100	100	891	110	2361
% of Volume	94	88	102	93	98	100	98	100	96	98	99	102	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

35: Roselle & Frontage Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	1.9	0.4	0.4	0.4	0	0	0.3
Total Del/Veh (s)	25.3	9.7	12.5	7.4	27.5	6.5	10.7
Vehicles Exited	99	147	851	103	110	1003	2313
Hourly Exit Rate	99	147	851	103	110	1003	2313
Input Volume	100	150	850	100	110	1020	2330
% of Volume	99	98	100	103	100	98	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

36: Davis & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	3.8	0.2	0.3	0.1	0	0	0.2
Total Del/Veh (s)	6.2	8.1	3.6	7.1	7.7	3.8	2.8	0.4	0.3	2.7	1	0.8	1.4

Vehicles Exited	8	10	12	9	12	12	10	205	10	8	239	11	546
Hourly Exit Rate	8	10	12	9	12	12	10	205	10	8	239	11	546
Input Volume	10	10	10	10	10	10	10	200	10	10	240	10	542
% of Volume	78	98	117	88	117	117	98	103	98	78	99	107	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

37: Claus Rd & Claribel Realigned (N) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.4	0.5	0.5	0	0	0	3	0.3	0.4	0.2
Total Del/Veh (s)	17.4	13.7	6.4	21.2	23.9	17.3	45.1	19.7	17.3	39.8	17.7	14.4	18.7
Vehicles Exited	102	10	114	298	9	50	29	653	156	47	487	219	2174
Hourly Exit Rate	102	10	114	298	9	50	29	653	156	47	487	219	2174
Input Volume	100	11	110	310	10	50	30	660	160	50	500	220	2211
% of Volume	102	93	104	96	88	100	97	99	98	94	97	100	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

38: New Claribel Road (S) & Claus Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0.3	1.4	0	0	0.2
Total Del/Veh (s)	19.4	7.9	8.6	4.5	22.2	7.8	8.9
Vehicles Exited	82	82	813	85	75	993	2130
Hourly Exit Rate	82	82	813	85	75	993	2130
Input Volume	80	80	830	80	80	1010	2160
% of Volume	102	102	98	106	93	98	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

39: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.9	8.9
Vehicles Exited	820	820
Hourly Exit Rate	820	820
Input Volume	830	830

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0
Total Del/Veh (s)	5	9.8	5.8	3.1	6.4	2.4	4.9	6	3.2	3.9	4.3	2.6	7.5
Vehicles Exited	18	434	20	20	333	18	18	11	21	18	10	22	943
Hourly Exit Rate	18	434	20	20	333	18	18	11	21	18	10	22	943
Input Volume	20	430	20	20	330	20	20	10	20	20	10	20	942
% of Volume	89	101	99	99	101	89	89	107	104	89	98	109	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0	0

41: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	870	870
Hourly Exit Rate	870	870
Input Volume	870	870
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

42: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.7	8.7
Vehicles Exited	908	908
Hourly Exit Rate	908	908
Input Volume	919	919
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

43: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	11.8	11.8
Vehicles Exited	1085	1085
Hourly Exit Rate	1085	1085
Input Volume	1080	1080
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

44: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.2	6.2
Vehicles Exited	1549	1549
Hourly Exit Rate	1549	1549
Input Volume	1840	1840
% of Volume	84	84
Denied Entry Before	0	0
Denied Entry After	0	0

45: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	326	326
Hourly Exit Rate	326	326
Input Volume	330	330
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

46: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.2	5.2
Vehicles Exited	374	374
Hourly Exit Rate	374	374
Input Volume	380	380
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

47: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	465	465
Hourly Exit Rate	465	465
Input Volume	461	461
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

48: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	806	806
Hourly Exit Rate	806	806
Input Volume	810	810
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

49: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7

Vehicles Exited	236	236
Hourly Exit Rate	236	236
Input Volume	240	240
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

50: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	152	152
Hourly Exit Rate	152	152
Input Volume	150	150
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

51: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.6	7.6
Vehicles Exited	1398	1398
Hourly Exit Rate	1398	1398
Input Volume	1700	1700
% of Volume	82	82
Denied Entry Before	0	0
Denied Entry After	0	0

52: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	1199	1199
Hourly Exit Rate	1199	1199
Input Volume	1190	1190

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

53: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.1	5.1
Vehicles Exited	1743	1743
Hourly Exit Rate	1743	1743
Input Volume	1750	1750
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

54: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.3	0.1
Total Del/Veh (s)	3	1.4	2.2
Vehicles Exited	1311	1441	2752
Hourly Exit Rate	1311	1441	2752
Input Volume	1330	1460	2790
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

55: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	2013	2013
Hourly Exit Rate	2013	2013
Input Volume	2020	2020
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

56: Performance by movement

Movement	NET	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.4	1.3	1.4
Vehicles Exited	2004	578	2582
Hourly Exit Rate	2004	578	2582
Input Volume	2010	580	2590
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

57: Performance by movement

Movement	EBT	NER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.2	2	2.8
Vehicles Exited	2000	862	2862
Hourly Exit Rate	2000	862	2862
Input Volume	2010	870	2880
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

58: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.2	1.2	1.2
Vehicles Exited	1525	489	2014
Hourly Exit Rate	1525	489	2014
Input Volume	1530	490	2020
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

59: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6	6
Vehicles Exited	2868	2868
Hourly Exit Rate	2868	2868
Input Volume	2880	2880
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

60: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	826	826
Hourly Exit Rate	826	826
Input Volume	820	820
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

61: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.5	7.5
Vehicles Exited	882	882
Hourly Exit Rate	882	882
Input Volume	1040	1040
% of Volume	85	85
Denied Entry Before	0	0
Denied Entry After	0	0

62: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4

Vehicles Exited	276	276
Hourly Exit Rate	276	276
Input Volume	280	280
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

63: Performance by movement

Movement	EBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	11.9	0.2	0.4	7
Vehicles Exited	2585	1	1931	4517
Hourly Exit Rate	2585	1	1931	4517
Input Volume	2590	1	1940	4531
% of Volume	100	100	100	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

64: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8	8
Vehicles Exited	841	841
Hourly Exit Rate	841	841
Input Volume	850	850
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

65: NCC SPUI Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0.1	0
Total Del/Veh (s)	3.7	6.3	4.3
Vehicles Exited	1454	430	1884
Hourly Exit Rate	1454	430	1884
Input Volume	1466	430	1896

% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

66: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	934	934
Hourly Exit Rate	934	934
Input Volume	919	919
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

67: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	613	613
Hourly Exit Rate	613	613
Input Volume	610	610
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

68: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.1	5.1
Vehicles Exited	308	308
Hourly Exit Rate	308	308
Input Volume	310	310
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

69: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	262	262
Hourly Exit Rate	262	262
Input Volume	250	250
% of Volume	105	105
Denied Entry Before	0	0
Denied Entry After	0	0

70: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.2	3.2
Vehicles Exited	485	485
Hourly Exit Rate	485	485
Input Volume	500	500
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

71: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	1460	1460
Hourly Exit Rate	1460	1460
Input Volume	1460	1460
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

72: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.2	7.2
Vehicles Exited	861	861
Hourly Exit Rate	861	861
Input Volume	860	860
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

73: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.7	0	0.3
Total Del/Veh (s)	3.7	6.4	5.1
Vehicles Exited	719	787	1506
Hourly Exit Rate	719	787	1506
Input Volume	720	790	1510
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

74: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	1770	1770
Hourly Exit Rate	1770	1770
Input Volume	1780	1780
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

75: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.9	3	4.5

Vehicles Exited	1154	1130	2284
Hourly Exit Rate	1154	1130	2284
Input Volume	1141	1130	2271
% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

76: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.8	8.8
Vehicles Exited	1914	1914
Hourly Exit Rate	1914	1914
Input Volume	1930	1930
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

77: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0.4	0.2
Total Del/Veh (s)	4.5	0.5	2.6
Vehicles Exited	539	467	1006
Hourly Exit Rate	539	467	1006
Input Volume	550	470	1021
% of Volume	98	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

78: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	109	109
Hourly Exit Rate	109	109
Input Volume	110	110

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

79: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	70	70
Hourly Exit Rate	70	70
Input Volume	70	70
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

80: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	133	133
Hourly Exit Rate	133	133
Input Volume	140	140
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

81: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	2.4	0.9	1.6	2.3
Vehicles Exited	1396	12	374	1782
Hourly Exit Rate	1396	12	374	1782
Input Volume	1410	10	370	1790
% of Volume	99	123	101	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

82: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6
Vehicles Exited	259	259
Hourly Exit Rate	259	259
Input Volume	260	260
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

83: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.2	4.2
Vehicles Exited	759	759
Hourly Exit Rate	759	759
Input Volume	750	750
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

84: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0.1	0
Total Del/Veh (s)	2	3.6	2.2
Vehicles Exited	1585	256	1841
Hourly Exit Rate	1585	256	1841
Input Volume	1594	260	1854
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

85: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.9	0	0.6
Total Del/Veh (s)	1.2	1.8	1.4
Vehicles Exited	912	533	1445
Hourly Exit Rate	912	533	1445
Input Volume	910	540	1450
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

86: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0.7	0	0.3
Total Del/Veh (s)	0.9	6.9	4.2
Vehicles Exited	780	969	1749
Hourly Exit Rate	780	969	1749
Input Volume	780	970	1750
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

87: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.4	5.4
Vehicles Exited	788	788
Hourly Exit Rate	788	788
Input Volume	790	790
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

88: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7

Vehicles Exited	607	607
Hourly Exit Rate	607	607
Input Volume	610	610
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

89: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	654	654
Hourly Exit Rate	654	654
Input Volume	660	660
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

90: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	1	0	0.5
Total Del/Veh (s)	3.6	9.4	6.3
Vehicles Exited	962	842	1804
Hourly Exit Rate	962	842	1804
Input Volume	960	860	1820
% of Volume	100	98	99
Denied Entry Before	1	0	1
Denied Entry After	0	0	0

91: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	3	1	1.6	2.8
Vehicles Exited	1528	8	216	1752
Hourly Exit Rate	1528	8	216	1752
Input Volume	1540	6	220	1766

% of Volume	99	128	98	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

92: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	9.1	3.8	6.5
Vehicles Exited	1152	1132	2284
Hourly Exit Rate	1152	1132	2284
Input Volume	1141	1130	2271
% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

93: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	717	717
Hourly Exit Rate	717	717
Input Volume	720	720
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

94: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	392	392
Hourly Exit Rate	392	392
Input Volume	399	399
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

95: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	256	256
Hourly Exit Rate	256	256
Input Volume	250	250
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

96: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.5	8.5
Vehicles Exited	2397	2397
Hourly Exit Rate	2397	2397
Input Volume	2960	2960
% of Volume	81	81
Denied Entry Before	0	0
Denied Entry After	0	0

97: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.7	4.7
Vehicles Exited	388	388
Hourly Exit Rate	388	388
Input Volume	390	390
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

98: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4	4
Vehicles Exited	909	909
Hourly Exit Rate	909	909
Input Volume	890	890
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

99: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.5	2.5
Vehicles Exited	302	302
Hourly Exit Rate	302	302
Input Volume	300	300
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

100: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.6	3.6
Vehicles Exited	1065	1065
Hourly Exit Rate	1065	1065
Input Volume	1060	1060
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

101: Performance by movement

Movement	WBL	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2	1.7	1.9

Vehicles Exited	1525	408	1933
Hourly Exit Rate	1525	408	1933
Input Volume	1530	411	1941
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

102: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.8	4.8
Vehicles Exited	842	842
Hourly Exit Rate	842	842
Input Volume	860	860
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

103: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	1786	1786
Hourly Exit Rate	1786	1786
Input Volume	1800	1800
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

104: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	1073	1073
Hourly Exit Rate	1073	1073
Input Volume	1070	1070

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

105: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.1	4.1
Vehicles Exited	1156	1156
Hourly Exit Rate	1156	1156
Input Volume	1160	1160
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

106: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	1886	1886
Hourly Exit Rate	1886	1886
Input Volume	1870	1870
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

107: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.7	3.7
Vehicles Exited	687	687
Hourly Exit Rate	687	687
Input Volume	680	680
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

108: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.3	3.3
Vehicles Exited	694	694
Hourly Exit Rate	694	694
Input Volume	710	710
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

109: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	2.2	0.7	1.9	2.2
Vehicles Exited	1880	1	466	2347
Hourly Exit Rate	1880	1	466	2347
Input Volume	1890	0	470	2360
% of Volume	99	400	99	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

110: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	10.4	10.4
Vehicles Exited	2206	2206
Hourly Exit Rate	2206	2206
Input Volume	2220	2220
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

111: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	1193	1193
Hourly Exit Rate	1193	1193
Input Volume	1189	1189
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

112: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.4	4.4
Vehicles Exited	609	609
Hourly Exit Rate	609	609
Input Volume	610	610
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

113: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.6	2.6
Vehicles Exited	1742	1742
Hourly Exit Rate	1742	1742
Input Volume	1760	1760
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

114: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2

Vehicles Exited	706	706
Hourly Exit Rate	706	706
Input Volume	710	710
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

115: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	532	532
Hourly Exit Rate	532	532
Input Volume	540	540
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

116: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	6.9	6.9
Vehicles Exited	1100	1100
Hourly Exit Rate	1100	1100
Input Volume	1090	1090
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

117: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.4	3.4
Vehicles Exited	802	802
Hourly Exit Rate	802	802
Input Volume	810	810

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

118: NCC SPUI Performance by movement

Movement	SWT	SWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	1.4	1
Vehicles Exited	1343	455	1798
Hourly Exit Rate	1343	455	1798
Input Volume	1353	460	1813
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

119: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	680	680
Hourly Exit Rate	680	680
Input Volume	680	680
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

120: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	7.2	7.2
Vehicles Exited	618	618
Hourly Exit Rate	618	618
Input Volume	620	620
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

121: Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.8	1.9	1.8
Vehicles Exited	1295	535	1830
Hourly Exit Rate	1295	535	1830
Input Volume	1300	540	1840
% of Volume	100	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

122: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.6	0.6
Vehicles Exited	213	213
Hourly Exit Rate	213	213
Input Volume	220	220
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

123: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.8	3.8
Vehicles Exited	286	286
Hourly Exit Rate	286	286
Input Volume	280	280
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

124: NCC Performance by movement

Movement	WBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	3.8	1.2	1.5	2.7
Vehicles Exited	1785	52	1768	3605
Hourly Exit Rate	1785	52	1768	3605
Input Volume	1801	53	1780	3634
% of Volume	99	98	99	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

125: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	32	32
Hourly Exit Rate	32	32
Input Volume	31	31
% of Volume	104	104
Denied Entry Before	0	0
Denied Entry After	0	0

126: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	2346	2346
Hourly Exit Rate	2346	2346
Input Volume	2360	2360
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

127: NCC SPUI & NCC Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.3	4.4	3.1

Vehicles Exited	1379	969	2348
Hourly Exit Rate	1379	969	2348
Input Volume	1390	970	2360
% of Volume	99	100	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

129: Performance by movement

Movement	EBT	NET	NER	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	2.3	0.7	2	2.2
Vehicles Exited	1379	1	448	1828
Hourly Exit Rate	1379	1	448	1828
Input Volume	1390	0	450	1840
% of Volume	99	400	100	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

130: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	1833	1833
Hourly Exit Rate	1833	1833
Input Volume	1840	1840
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

131: External Performance by approach

Approach	SW	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.9	3.9
Vehicles Exited	548	548
Hourly Exit Rate	548	548
Input Volume	550	550

% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

132: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.3	5.1	5.2
Vehicles Exited	1153	1129	2282
Hourly Exit Rate	1153	1129	2282
Input Volume	1141	1130	2271
% of Volume	101	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

133: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.4	5.8	5.6
Vehicles Exited	640	546	1186
Hourly Exit Rate	640	546	1186
Input Volume	630	540	1170
% of Volume	102	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

134: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.1	2.1
Vehicles Exited	1313	1313
Hourly Exit Rate	1313	1313
Input Volume	1330	1330
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

135: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	8.3	8.3
Vehicles Exited	1971	1971
Hourly Exit Rate	1971	1971
Input Volume	2350	2350
% of Volume	84	84
Denied Entry Before	0	0
Denied Entry After	0	0

136: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.3	0.3
Vehicles Exited	48	48
Hourly Exit Rate	48	48
Input Volume	51	51
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

137: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.2	0.2
Vehicles Exited	50	50
Hourly Exit Rate	50	50
Input Volume	51	51
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

138: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.8	1.8
Vehicles Exited	1102	1102
Hourly Exit Rate	1102	1102
Input Volume	1120	1120
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

139: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	4.6	4.6
Vehicles Exited	986	986
Hourly Exit Rate	986	986
Input Volume	990	990
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

140: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	1828	1828
Hourly Exit Rate	1828	1828
Input Volume	1840	1840
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

142: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1

Vehicles Exited	28	28
Hourly Exit Rate	28	28
Input Volume	31	31
% of Volume	91	91
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.1	0.1
Vehicles Exited	160	160
Hourly Exit Rate	160	160
Input Volume	160	160
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.5	0.2
Total Del/Veh (s)	3.8	2.6	3.3
Vehicles Exited	659	571	1230
Hourly Exit Rate	659	571	1230
Input Volume	660	580	1239
% of Volume	100	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: Performance by movement

Movement	EBT	EBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.5	5.5	4.2
Vehicles Exited	1882	987	2869
Hourly Exit Rate	1882	987	2869
Input Volume	1891	990	2881

% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

146: Performance by movement

Movement	WBT	WBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.4	2.5	1.6
Vehicles Exited	1450	383	1833
Hourly Exit Rate	1450	383	1833
Input Volume	1460	380	1840
% of Volume	99	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

147: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.8	0.7	1.3
Vehicles Exited	473	369	842
Hourly Exit Rate	473	369	842
Input Volume	470	370	840
% of Volume	101	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

148: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.5	0.5
Vehicles Exited	262	262
Hourly Exit Rate	262	262
Input Volume	261	261
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

149: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.5	1.5
Vehicles Exited	1058	1058
Hourly Exit Rate	1058	1058
Input Volume	1060	1060
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

150: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	139	139
Hourly Exit Rate	139	139
Input Volume	140	140
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

151: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	536	536
Hourly Exit Rate	536	536
Input Volume	550	550
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

152: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.9	2.9
Vehicles Exited	1075	1075
Hourly Exit Rate	1075	1075
Input Volume	1090	1090
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

154: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	11.9	3.8	7.7
Vehicles Exited	1310	1440	2750
Hourly Exit Rate	1310	1440	2750
Input Volume	1330	1460	2790
% of Volume	98	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

155: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	9.3	5.3
Vehicles Exited	1766	1781	3547
Hourly Exit Rate	1766	1781	3547
Input Volume	1780	1800	3580
% of Volume	99	99	99
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

157: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.6	1.6

Vehicles Exited	466	466
Hourly Exit Rate	466	466
Input Volume	460	460
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

159: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.2	2.2
Vehicles Exited	1457	1457
Hourly Exit Rate	1457	1457
Input Volume	1460	1460
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

163: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.4	2.4
Vehicles Exited	1011	1011
Hourly Exit Rate	1011	1011
Input Volume	1020	1020
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

164: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	161	161
Hourly Exit Rate	161	161
Input Volume	160	160

% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

165: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.2	0	0.1
Total Del/Veh (s)	1.1	14.1	8
Vehicles Exited	1334	1460	2794
Hourly Exit Rate	1334	1460	2794
Input Volume	1330	1460	2790
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

168: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1	1
Vehicles Exited	110	110
Hourly Exit Rate	110	110
Input Volume	110	110
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

170: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.8	0.8
Vehicles Exited	163	163
Hourly Exit Rate	163	163
Input Volume	160	160
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

171: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	161	161
Hourly Exit Rate	161	161
Input Volume	160	160
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

172: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	5.7	5.7
Vehicles Exited	551	551
Hourly Exit Rate	551	551
Input Volume	550	550
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

173: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	230	230
Hourly Exit Rate	230	230
Input Volume	230	230
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

174: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.8	2.8
Vehicles Exited	292	292
Hourly Exit Rate	292	292
Input Volume	290	290
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

176: External Performance by approach

Approach	NE	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	213	213
Hourly Exit Rate	213	213
Input Volume	210	210
% of Volume	102	102
Denied Entry Before	0	0
Denied Entry After	0	0

177: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	233	233
Hourly Exit Rate	233	233
Input Volume	230	230
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

178: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3

Vehicles Exited	568	568
Hourly Exit Rate	568	568
Input Volume	560	560
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

179: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2	2
Vehicles Exited	970	970
Hourly Exit Rate	970	970
Input Volume	970	970
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

180: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	126	126
Hourly Exit Rate	126	126
Input Volume	130	130
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

181: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.1	1.1
Vehicles Exited	497	497
Hourly Exit Rate	497	497
Input Volume	500	500

% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

182: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	941	941
Hourly Exit Rate	941	941
Input Volume	950	950
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

183: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	0.9	0.9
Vehicles Exited	204	204
Hourly Exit Rate	204	204
Input Volume	210	210
% of Volume	97	97
Denied Entry Before	0	0
Denied Entry After	0	0

184: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.5	3.5
Vehicles Exited	2347	2347
Hourly Exit Rate	2347	2347
Input Volume	2360	2360
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

185: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.3	1.3
Vehicles Exited	334	334
Hourly Exit Rate	334	334
Input Volume	340	340
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

186: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0.2	0.1
Total Del/Veh (s)	0.8	0.1	0.5
Vehicles Exited	160	164	324
Hourly Exit Rate	160	164	324
Input Volume	160	160	321
% of Volume	100	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

187: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.7	1.7
Vehicles Exited	100	100
Hourly Exit Rate	100	100
Input Volume	100	100
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

188: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	3.1	3.1
Vehicles Exited	658	658
Hourly Exit Rate	658	658
Input Volume	660	660
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

189: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.7	2.4	3.7
Vehicles Exited	471	374	845
Hourly Exit Rate	471	374	845
Input Volume	470	370	840
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

190: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.8	0.6	2.4
Vehicles Exited	472	374	846
Hourly Exit Rate	472	374	846
Input Volume	470	370	840
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

191: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.1	1.3	2.9

Vehicles Exited	472	375	847
Hourly Exit Rate	472	375	847
Input Volume	470	370	840
% of Volume	100	101	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

192: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.1	2.6	4
Vehicles Exited	474	376	850
Hourly Exit Rate	474	376	850
Input Volume	470	370	840
% of Volume	101	102	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

193: Bend Performance by approach

Approach	SB	NE	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5	1.9	3.3
Vehicles Exited	375	471	846
Hourly Exit Rate	375	471	846
Input Volume	370	470	840
% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

194: Performance by movement

Movement	WBT	SWT	SWR	All
Denied Del/Veh (s)	0	0	0	0
Total Del/Veh (s)	1.6	0	0.2	1.2
Vehicles Exited	1448	2	565	2015
Hourly Exit Rate	1448	2	565	2015
Input Volume	1460	1	560	2020

% of Volume	99	200	101	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

195: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.4	1.4
Vehicles Exited	567	567
Hourly Exit Rate	567	567
Input Volume	560	560
% of Volume	101	101
Denied Entry Before	0	0
Denied Entry After	0	0

200: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.3	2.3
Vehicles Exited	1743	1743
Hourly Exit Rate	1743	1743
Input Volume	1760	1760
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

299: Bend Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	2.7	2.7
Vehicles Exited	862	862
Hourly Exit Rate	862	862
Input Volume	870	870
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

300: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.5	2.7	5.4
Vehicles Exited	1556	1144	2700
Hourly Exit Rate	1556	1144	2700
Input Volume	1560	1150	2710
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

301: Bend Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0	0
Total Del/Veh (s)	1.9	1.9
Vehicles Exited	1931	1931
Hourly Exit Rate	1931	1931
Input Volume	1940	1940
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

500: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.6	0	0.4
Total Del/Veh (s)	3	2.7	2.9
Vehicles Exited	1664	1058	2722
Hourly Exit Rate	1664	1058	2722
Input Volume	1660	1060	2720
% of Volume	100	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

501: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.6	5	4.3
Vehicles Exited	896	1068	1964
Hourly Exit Rate	896	1068	1964
Input Volume	910	1090	2000
% of Volume	98	98	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	17.8
Total Del/Veh (s)	106
Vehicles Exited	####
Hourly Exit Rate	####
Input Volume	####
% of Volume	23
Denied Entry Before	2
Denied Entry After	990

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Queuing ar PM Peak Hour
2042 Alterr 9/3/2014

Intersection: 1: Carver & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR	L	TR
Maximum Queue (ft)	203	515	548	571	437	238	444	473	470	79	356	609	240	174
Average Queue (ft)	67	299	317	312	100	115	244	278	288	29	154	250	117	76
95th Queue (ft)	152	474	495	502	273	210	388	422	424	63	316	521	209	152
Link Distance (ft)		3295	3295	3295			2518	2518	2518			2428		2373
Upstream Blk Time (%)														
Queuing Penalty (veh)														

Storage Bay Dist (ft)	530			410	580			530	330		300
Storage Blk Time (%)		1		4	0		0		0	8	0	0
Queuing Penalty (veh)		1		10	0		0		0	13	0	0

Intersection: 2: Tully Rd & NCC

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	T	L	T	T	TR
Maximum Queue (ft)	168	1165	1038	691	444	226	268	266	276	296	310	53	288	278	298	132	132	102	310	182	188	181
Average Queue (ft)	34	344	383	372	156	123	169	169	133	164	166	15	156	167	179	66	61	28	160	101	97	72
95th Queue (ft)	154	804	837	657	407	212	246	241	240	265	272	40	261	267	279	113	114	77	298	172	175	162
Link Distance (ft)		2518	2518	2518					2590	2590	2590			923	923	923	923	923		3946	3946	3946
Upstream Blk Time (%)		0	0																			
Queuing Penalty (veh)		0	0																			
Storage Bay Dist (ft)	715				355	920	920	920				750	800						550			
Storage Blk Time (%)		1		15																		
Queuing Penalty (veh)		0		48																		

Intersection: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	310	3240	139	507	220	245	404	358	350	3919	3885
Average Queue (ft)	296	1936	30	466	121	100	219	205	349	2354	2112
95th Queue (ft)	364	3549	90	592	275	218	338	317	351	4042	4143
Link Distance (ft)		5459		491			464	464		5159	5159
Upstream Blk Time (%)				33			0			0	0
Queuing Penalty (veh)				190			0			0	0
Storage Bay Dist (ft)	250		90		160	185			290		
Storage Blk Time (%)	56	30	1	66	0	2	16		91	7	
Queuing Penalty (veh)	269	64	3	80	1	7	13		314	24	

Intersection: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Movement	WB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	125	232	289	272
Average Queue (ft)	57	119	120	97
95th Queue (ft)	107	197	255	223

Link Distance (ft)	672	586	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	R
Maximum Queue (ft)	502	450	828	151
Average Queue (ft)	377	138	369	62
95th Queue (ft)	566	459	946	119
Link Distance (ft)	491		3699	672
Upstream Blk Time (%)	2			
Queuing Penalty (veh)	18			
Storage Bay Dist (ft)		530		
Storage Blk Time (%)		0	14	
Queuing Penalty (veh)		0	15	

Intersection: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	NB	B300	B300	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	>	T	T	L	T	T	T	>
Maximum Queue (ft)	126	194	309	151	178	214	209	161	176	156	192	179	2	28	207	190	166	124	149
Average Queue (ft)	59	72	162	79	83	113	93	82	88	78	84	94	0	1	91	97	93	46	63
95th Queue (ft)	105	129	259	133	141	186	176	140	149	135	156	161	2	15	166	161	149	107	121
Link Distance (ft)			1111			1079		737	737	737	737		757	757		1038	1038	1038	
Upstream Blk Time (%)																			
Queuing Penalty (veh)																			
Storage Bay Dist (ft)	300	300		300	300		700					300			550				650
Storage Blk Time (%)			0																
Queuing Penalty (veh)			1																

Intersection: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	T	R	L	L	T	T	TR

Maximum Queue (ft)	219	410	4982	4982	4982	410	330	360	3433	3427	3410	199	255	285	2721	2687	2637	260	558	619	901	880	729
Average Queue (ft)	119	385	4320	4316	4308	402	329	359	3091	3065	2280	57	244	283	1650	1633	1638	254	407	457	524	519	465
95th Queue (ft)	193	518	5978	5965	5945	475	334	362	4036	4044	4533	160	285	298	2829	2795	2728	298	603	669	1017	958	693
Link Distance (ft)			4930	4930	4930				3381	3381	3381				3853	3853	3853				1480	1480	1480
Upstream Blk Time (%)			55	59	56				68	56	6										0	0	
Queuing Penalty (veh)			0	0	0				0	0	0										0	0	
Storage Bay Dist (ft)	350	350				350	300	300				350	225	225				200	500	500			
Storage Blk Time (%)		0	69		70	1	39	90	0		0		24	58	44		55	46	7	14	3		
Queuing Penalty (veh)		0	261		335	7	131	303	0		1		94	225	176		241	180	29	64	23		

Intersection: 8: Coffee Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	>	L	T	T	>	L	L	>	L	L	>
Maximum Queue (ft)	292	93	98	231	131	125	136	197	290	296	256	144	143	87
Average Queue (ft)	155	30	33	113	36	64	58	80	152	167	138	65	75	26
95th Queue (ft)	263	74	79	209	88	114	111	155	263	273	227	122	126	66
Link Distance (ft)		902	902			952	952			860	860			901
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	600			600	650			650	500			500	500	
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 9: Coffee Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	T	T	TR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	327	360	1155	1039	790	358	330	437	422	371	272	310	376	358	217	250	494	357
Average Queue (ft)	205	308	718	614	430	158	123	270	274	228	155	195	199	203	116	130	140	234
95th Queue (ft)	305	424	1166	1047	808	360	246	382	384	332	257	282	304	308	196	225	406	381
Link Distance (ft)			1409	1409	1409			3308	3308	3308			1262	1262		1262	1262	
Upstream Blk Time (%)			1	0	0													
Queuing Penalty (veh)			0	0	0													
Storage Bay Dist (ft)	300	300				300	300				300	300			300			300
Storage Blk Time (%)	0	4	37		13	0	0	4			0	0	1				0	7
Queuing Penalty (veh)	3	23	190		62	1	0	5			0	1	2				0	9

Intersection: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	198	365	407	263	257	194	213	253	327	398	160	197	121
Average Queue (ft)	91	228	245	159	163	94	113	152	117	225	69	77	34
95th Queue (ft)	163	341	366	241	235	167	188	244	235	357	137	154	86
Link Distance (ft)		2722	2722			3227	3227		2570	2570		2170	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	525			625	625			200			150		75
Storage Blk Time (%)								5	0		3	14	0
Queuing Penalty (veh)								9	1		4	15	1

Intersection: 11: Oakdale Rd & Claribel Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	T	L	T	T	R	L	T	TR
Maximum Queue (ft)	160	61	161	298	320	56	303	284	289	251	314	502	509
Average Queue (ft)	59	16	60	122	185	13	155	157	173	129	83	238	288
95th Queue (ft)	120	46	115	237	278	39	258	255	261	208	217	463	489
Link Distance (ft)		1731	1731		1878	1878		1181	1181	1181		3988	3988
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	410			310			300				315		
Storage Blk Time (%)				0	0		0	0				5	
Queuing Penalty (veh)				0	1		2	0				4	

Intersection: 12: Oakdale Rd & Claratina Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	T	T	R	L	T	T	T	R	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	281	317	410	450	216	141	290	263	210	71	349	374	312	296	231	415	362	345
Average Queue (ft)	167	204	260	228	15	55	203	174	94	20	207	233	175	171	44	255	207	155
95th Queue (ft)	254	288	368	364	135	112	275	249	197	51	306	327	271	270	133	366	325	282
Link Distance (ft)		1375	1375	1375			1274	1274	1274			2052	2052	2052		512	512	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	300				300	300				300	500				300			300
Storage Blk Time (%)	0	1		1	0		0									4	0	1

Queuing Penalty (veh)	0	2		11	0		0				1	1	3

Intersection: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	T	R
Maximum Queue (ft)	622	871	134	1305	210	310	1043	235	1254	160
Average Queue (ft)	318	534	66	839	154	139	619	215	636	106
95th Queue (ft)	692	1060	136	1848	275	343	1086	278	1347	191
Link Distance (ft)	3220	3220		3356			1227		1669	
Upstream Blk Time (%)							2		1	
Queuing Penalty (veh)							0		0	
Storage Bay Dist (ft)			75		150	250		175		100
Storage Blk Time (%)			13	69	2	0	57	35	39	2
Queuing Penalty (veh)			67	138	8	1	40	135	178	8

Intersection: 14: Roselle & Claribel Realigned

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	67	244	214	187	96	41	313	354	271	111	225	195
Average Queue (ft)	18	115	75	99	28	8	143	196	62	35	114	90
95th Queue (ft)	51	203	144	168	73	28	260	322	213	82	185	161
Link Distance (ft)		1163			1019			1058	1058		414	414
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300	300		300	300			300		
Storage Blk Time (%)		0	0				1	1			0	
Queuing Penalty (veh)		0	0				1	3			0	

Intersection: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	272	280	312	97	106	144	183
Average Queue (ft)	165	169	169	33	38	57	85
95th Queue (ft)	254	255	268	76	83	109	149
Link Distance (ft)	826			873	873	1576	
Upstream Blk Time (%)							

Queuing Penalty (veh)							
Storage Bay Dist (ft)		300	400			150	
Storage Blk Time (%)	0	0	0		0	1	
Queuing Penalty (veh)	1	1	0		0	1	

Intersection: 16: Claus Rd & NCC

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T	R	L	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	284	309	300	334	292	149	212	246	233	314	340	309	48	184	205	230	194	194	136	78	85	257	261	356
Average Queue (ft)	185	199	201	220	163	60	110	147	142	187	202	178	9	103	122	131	93	104	61	19	33	150	151	156
95th Queue (ft)	273	291	282	308	253	112	181	216	209	275	298	280	30	167	186	199	162	175	117	56	70	231	236	286
Link Distance (ft)			1066	1066	1066				1606	1606	1606	1606			726	726	726	726				1218	1218	
Upstream Blk Time (%)																								
Queuing Penalty (veh)																								
Storage Bay Dist (ft)	800	800				1000	970	970					850	720					840	520	520			720
Storage Blk Time (%)																								
Queuing Penalty (veh)																								

Intersection: 17: Patterson Rd & Crane Rd

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	304	206	346	151	170
Average Queue (ft)	167	44	176	72	79
95th Queue (ft)	273	127	292	129	141
Link Distance (ft)		2884	5348	826	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	300			300	
Storage Blk Time (%)	1				
Queuing Penalty (veh)	2				

Intersection: 18: Bentley & NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L	T	R
Maximum Queue (ft)	216	370	356	101	162	396	380	46	194	152	89	76	184	267
Average Queue (ft)	93	203	208	33	66	224	218	7	84	57	27	18	88	128

95th Queue (ft)	177	324	325	74	128	348	339	27	161	122	67	53	164	224
Link Distance (ft)		7926	7926			2369	2369			1462			1179	
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	680			580	770			720	200		300	150		300
Storage Blk Time (%)									1	0		0	2	0
Queuing Penalty (veh)									2	0		0	8	0

Intersection: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	131	190	205	90	256	222	130	137	109	99	96
Average Queue (ft)	52	77	93	32	134	95	58	59	48	32	42
95th Queue (ft)	102	149	166	71	214	178	106	111	91	71	75
Link Distance (ft)		1565	1565		2560			1264		1626	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250		300	250		100		75
Storage Blk Time (%)		0			0	0			1	1	1
Queuing Penalty (veh)		0			1	0			1	2	1

Intersection: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	LT	T	R	LT	TR
Maximum Queue (ft)	110	1205	260	360	725	428	608	716	360	845	819
Average Queue (ft)	86	529	238	207	381	157	387	414	182	530	491
95th Queue (ft)	134	1167	299	398	679	301	680	798	415	872	839
Link Distance (ft)		2671			2545	2545		1934		5862	5862
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	50		200	300			850		300		
Storage Blk Time (%)	62	55	24	2	21		1	23	0		
Queuing Penalty (veh)	348	213	74	9	30		3	146	0		

Intersection: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB

Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	170	313	326	204	269	295	108	188	278	110	154	269	152
Average Queue (ft)	61	162	175	84	141	166	38	75	121	82	65	91	51
95th Queue (ft)	124	263	276	155	235	270	81	136	228	132	124	182	111
Link Distance (ft)		1994	1994		2690	2690			1873			2914	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	250			200			200	200		50	100		100
Storage Blk Time (%)		1		0	2			0	33	9	5	8	1
Queuing Penalty (veh)		1		1	3			0	116	31	11	16	1

Intersection: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	268	362	282	215	131	96	147	173	451	472	322	362	499	528
Average Queue (ft)	120	172	169	85	43	22	44	56	279	284	106	175	271	313
95th Queue (ft)	216	290	261	175	96	63	100	137	458	462	285	311	434	473
Link Distance (ft)		5602			2174	2174			1386	1386			2186	2186
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	225		225	225			225	400			300	400		
Storage Blk Time (%)	0	3	2	1			0		2	7	0	0	1	
Queuing Penalty (veh)	1	12	6	1			0		1	15	0	2	2	

Intersection: 23: Albers & Claribel

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	57	58	50	126	89	79	187	170	92	167	141	43
Average Queue (ft)	14	13	18	51	30	24	88	62	38	78	50	8
95th Queue (ft)	39	41	40	100	70	62	159	131	77	140	112	32
Link Distance (ft)		1997			2609		1326	1326		1404	1404	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		225	175		325			350			350
Storage Blk Time (%)				0								
Queuing Penalty (veh)				0								

Intersection: 24: Oakdale Rd & NCC SPUI

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	>	L	L	>	L	T	T	T	>	L	T	T	T	>
Maximum Queue (ft)	250	313	240	125	119	212	57	161	160	161	179	162	194	207	161	256
Average Queue (ft)	141	196	114	50	61	99	15	82	79	84	89	66	99	107	65	124
95th Queue (ft)	221	284	199	99	104	171	43	140	144	147	153	127	168	178	135	215
Link Distance (ft)		948			1050			1357	1357	1357			1181	1181	1181	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	500		500	350		350	600				700	600				600
Storage Blk Time (%)																
Queuing Penalty (veh)																

Intersection: 25: NCC SPUI & Roselle

Movement	NB	NB	NB	NB	SB	SB	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	>	L	T	T	>	L	L	>	L	L	>
Maximum Queue (ft)	171	236	195	135	145	211	209	40	86	45	313	71	86	190
Average Queue (ft)	68	105	47	43	50	99	100	5	30	9	161	21	35	87
95th Queue (ft)	135	199	138	103	108	184	185	24	66	32	264	52	68	157
Link Distance (ft)		671	671			1058	1058				1221			1160
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	400			400	550			550	500	500		500	500	
Storage Blk Time (%)														
Queuing Penalty (veh)														

Intersection: 27: NCC & Albers Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T	R	L	T	R
Maximum Queue (ft)	373	353	184	190	52	132	123	197	182	66	192	556	361	122	321	9
Average Queue (ft)	209	207	91	92	10	44	62	97	94	16	25	256	96	16	155	0
95th Queue (ft)	332	324	164	161	36	103	105	167	158	49	104	472	284	77	289	9
Link Distance (ft)			1146	1146				2966	2966			2755			1386	1386
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	920	920			580	720	720			580	200		300	200		

Storage Blk Time (%)	19	0	5
Queuing Penalty (veh)	44	0	1

Intersection: 28: NCC & SMITH

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	179	104	112	25	64	143	141	51	95	113	114
Average Queue (ft)	81	28	40	3	17	59	55	9	30	39	48
95th Queue (ft)	148	78	89	14	48	122	109	33	68	85	90
Link Distance (ft)		5348	5348			4038	4038		1307	1066	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	870			670	650			650			630
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 29: NCC & SR 120/108

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	134	187	57	12
Average Queue (ft)	49	44	9	0
95th Queue (ft)	102	128	35	10
Link Distance (ft)	2713	1095	1548	1548
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 30: SR 108 (McHenry Ave)#2 & Charity

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	85	116	84	80	140	156	159	174	60	98	173	123	128	50
Average Queue (ft)	34	45	32	28	60	47	66	79	15	35	82	43	51	11
95th Queue (ft)	71	88	69	65	112	108	122	140	46	77	145	95	101	36
Link Distance (ft)		882		1227		1038	1038	1038			2422	2422	2422	

Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	300		300		300				300	300			300
Storage Blk Time (%)													
Queuing Penalty (veh)													

Intersection: 31: SR 108 (McHenry Ave)#3 & Galaxy Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	182	150	285	356	229	470	441	114	202	208	255	252	70
Average Queue (ft)	83	49	133	149	48	294	254	48	108	119	130	140	21
95th Queue (ft)	153	101	234	273	136	432	396	89	178	184	214	224	56
Link Distance (ft)		429		638		834	834				757	757	757
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	300		300		300			400	450	450			
Storage Blk Time (%)			0	1		7	0						
Queuing Penalty (veh)			0	2		3	0						

Intersection: 32: Coffee Rd & Frontage Road North

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	82	85	124	70	95	178	175	96	106	124	143	61
Average Queue (ft)	31	29	50	21	35	75	87	25	36	45	56	14
95th Queue (ft)	67	64	98	51	72	147	155	63	79	94	115	43
Link Distance (ft)		1261		2050		952	952			1343	1343	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 33: Coffee Rd & Frontage Road South

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	119	94	95	110	101	174	199	46	114	137	156	60

Average Queue (ft)	56	31	29	48	30	79	79	4	45	47	57	8
95th Queue (ft)	103	69	71	90	72	148	156	22	98	106	113	35
Link Distance (ft)		752		1080		1259	1259			902	902	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			300
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 34: Oakdale Rd & Frontage Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (ft)	137	105	99	96	142	162	242	65	139	201	186	69
Average Queue (ft)	48	42	42	39	63	59	115	24	58	85	98	22
95th Queue (ft)	98	82	84	78	116	123	209	54	112	159	161	52
Link Distance (ft)		636		496		370	370			1357	1357	1357
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300		300		300			300	300			
Storage Blk Time (%)							0					
Queuing Penalty (veh)							0					

Intersection: 35: Roselle & Frontage Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	128	142	274	233	146	154	176
Average Queue (ft)	62	61	132	115	72	54	73
95th Queue (ft)	110	114	229	207	126	121	141
Link Distance (ft)		1664	704	704		671	671
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300				300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 36: Davis & Claribel Realigned (N)

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	64	63	32	6	23	8
Average Queue (ft)	23	24	3	0	1	0
95th Queue (ft)	56	52	18	6	10	6
Link Distance (ft)	662	702		778		1110
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			50		50	
Storage Blk Time (%)			0	0		0
Queuing Penalty (veh)			0	0		0

Intersection: 37: Claus Rd & Claribel Realigned (N)

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	141	100	332	95	296	319	106	198	341
Average Queue (ft)	57	48	156	26	135	154	39	82	164
95th Queue (ft)	109	86	270	69	256	278	86	161	286
Link Distance (ft)		1110	417		1218	1218		1028	1028
Upstream Blk Time (%)			0						
Queuing Penalty (veh)			0						
Storage Bay Dist (ft)	400			450			300		
Storage Blk Time (%)					0				
Queuing Penalty (veh)					0				

Intersection: 38: New Claribel Road (S) & Claus Rd

Movement	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	T	T	R	L	L	T	T
Maximum Queue (ft)	114	86	176	265	83	71	97	151	157
Average Queue (ft)	45	33	68	126	25	16	40	55	70
95th Queue (ft)	89	67	131	223	64	52	79	125	134
Link Distance (ft)	437		1878	1878				1205	1205
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		300			300	890	890		
Storage Blk Time (%)				0					
Queuing Penalty (veh)				0					

Intersection: 40: NCC

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	LT	TR	LT	TR	LT	TR
Maximum Queue (ft)	60	45	3	57	47	53	40
Average Queue (ft)	9	6	0	12	6	10	4
95th Queue (ft)	40	28	3	42	29	38	22
Link Distance (ft)	3014	3427	3427	634	634	1034	1034
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 56:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 57:

Movement	B299	B299
Directions Served	T	
Maximum Queue (ft)	179	102
Average Queue (ft)	21	8
95th Queue (ft)	96	49
Link Distance (ft)	377	377
Upstream Blk Time (%)		
Queuing Penalty (veh)		

Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 58:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 63:

Movement	EB	EB
Directions Served	T	T
Maximum Queue (ft)	253	504
Average Queue (ft)	9	9
95th Queue (ft)	258	255
Link Distance (ft)	2590	2590
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 65: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)

Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 81:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 84: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 86: Bend

Movement	NE
Directions Served	T

Maximum Queue (ft)	24
Average Queue (ft)	1
95th Queue (ft)	24
Link Distance (ft)	873
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 90: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	417	174
Average Queue (ft)	56	15
95th Queue (ft)	303	141
Link Distance (ft)	586	586
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 91:

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 101:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 109:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 118: NCC SPUI

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 121:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 124: NCC

Movement	B155	B155	B155	B74
Directions Served	T	T		T
Maximum Queue (ft)	6	84	30	5
Average Queue (ft)	0	3	1	0
95th Queue (ft)	6	40	12	5
Link Distance (ft)	1066	1066	1066	671
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 127: NCC SPUI & NCC

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)

Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 129:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 145:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 146:

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)

95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 154: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	134
Average Queue (ft)	5
95th Queue (ft)	137
Link Distance (ft)	1606
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 186: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	2
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	437
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 194:

Movement

Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary
Network wide Queuing Penalty: 5187

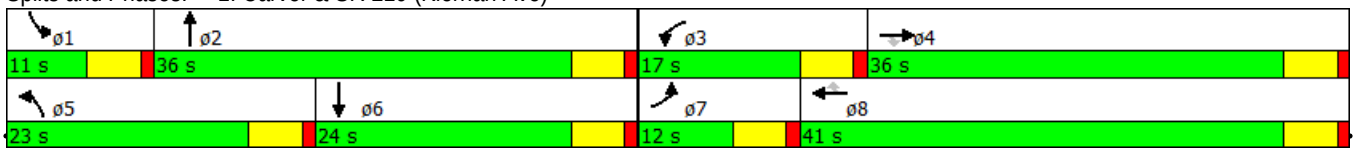
1: Carver & SR 219 (Kiernan Ave)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	1040	160	90	1420	70	220	80	40	30	140	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	12.0	36.0	36.0	17.0	41.0	41.0	23.0	36.0		11.0	24.0	
Total Split (%)	12.0%	36.0%	36.0%	17.0%	41.0%	41.0%	23.0%	36.0%		11.0%	24.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 91.4
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & SR 219 (Kiernan Ave)



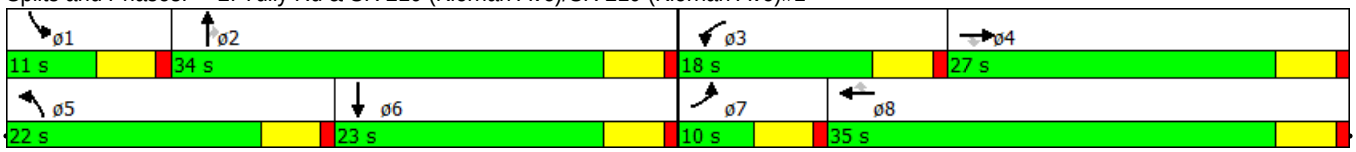
2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	600	460	360	1300	30	220	90	170	40	110	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	660		415	0		400	300		0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			3702			3753			4028	
Travel Time (s)		32.5			45.9			51.2			54.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	
Total Split (s)	10.0	27.0	27.0	18.0	35.0	35.0	22.0	34.0	34.0	11.0	23.0	
Total Split (%)	11.1%	30.0%	30.0%	20.0%	38.9%	38.9%	24.4%	37.8%	37.8%	12.2%	25.6%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 80.3
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1



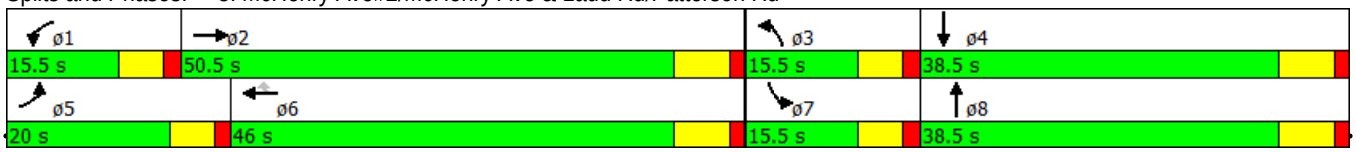
3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	450	70	20	660	150	40	470	20	80	580	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	38.5		15.5	38.5	38.5	15.5	38.5		15.5	38.5	
Total Split (s)	20.0	50.5		15.5	46.0	46.0	15.5	38.5		15.5	38.5	
Total Split (%)	16.7%	42.1%		12.9%	38.3%	38.3%	12.9%	32.1%		12.9%	32.1%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 116.2
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd



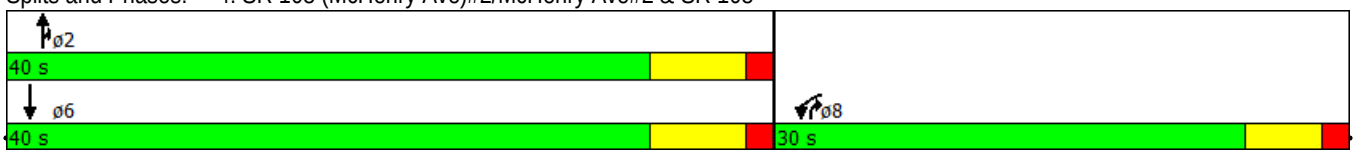
4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	230	20	510	140	0	670
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	30.0		40.0			40.0
Total Split (%)	42.9%		57.1%			57.1%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 48
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108



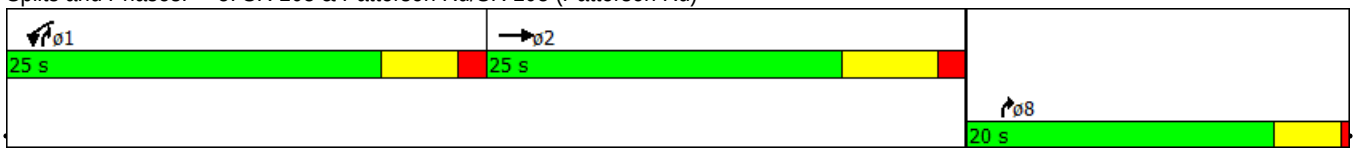
5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	530	20	230	830	0	140	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		60		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	9%	9%	9%	9%	13%	13%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	25.0		25.0				20.0
Total Split (%)	35.7%		35.7%				29%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 53.2
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

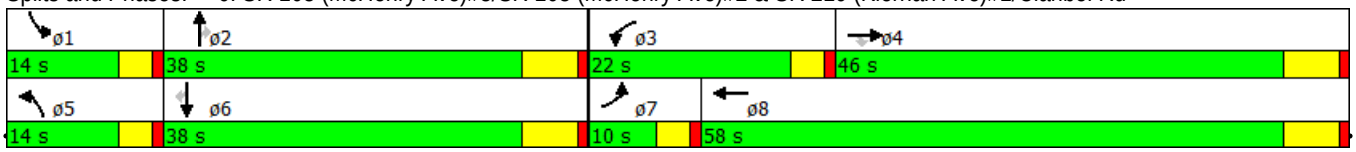


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	450	160	290	1350	90	130	510	140	50	530	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	775		660	975		0	260		0	420		535
Storage Lanes	2		1	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			50	
Link Distance (ft)		1550			2728			2021			602	
Travel Time (s)		19.2			33.8			30.6			8.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.0	35.0	35.0	9.0	35.0		9.0	28.0	28.0	9.0	37.0	37.0
Total Split (s)	10.0	46.0	46.0	22.0	58.0		14.0	38.0	38.0	14.0	38.0	38.0
Total Split (%)	8.3%	38.3%	38.3%	18.3%	48.3%		11.7%	31.7%	31.7%	11.7%	31.7%	31.7%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0		3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0		0.0	-2.0	-2.0	0.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 113.6
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd



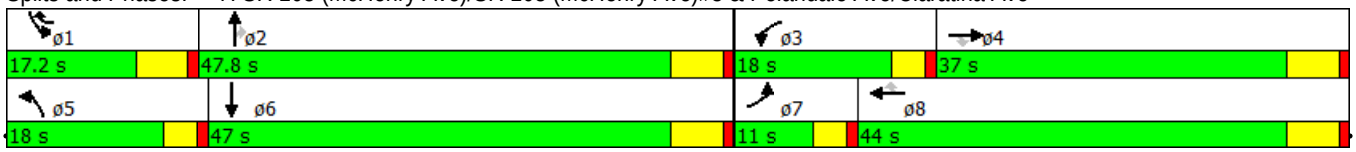
7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	890	240	300	1920	590	490	960	160	160	610	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		350	300		350	225		200	500		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	60			60			60			120		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4998			3590			3932			1885	
Travel Time (s)		75.7			54.4			67.0			32.1	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.0	33.7	33.7	9.0	32.7	10.7	9.0	43.7	43.7	10.7	43.7	
Total Split (s)	11.0	37.0	37.0	18.0	44.0	17.2	18.0	47.8	47.8	17.2	47.0	
Total Split (%)	9.2%	30.8%	30.8%	15.0%	36.7%	14.3%	15.0%	39.8%	39.8%	14.3%	39.2%	
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 109.3
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave



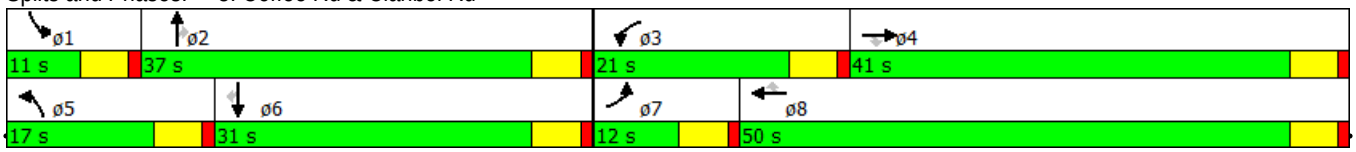
8: Coffee Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	470	260	110	1200	30	160	120	130	30	290	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		250	420		240	260		0	110		260
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2546			2696			1576			2024	
Travel Time (s)		31.6			33.4			23.9			30.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	26.5	26.5	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	12.0	41.0	41.0	21.0	50.0	50.0	17.0	37.0	37.0	11.0	31.0	31.0
Total Split (%)	10.9%	37.3%	37.3%	19.1%	45.5%	45.5%	15.5%	33.6%	33.6%	10.0%	28.2%	28.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 104.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd & Claribel Rd



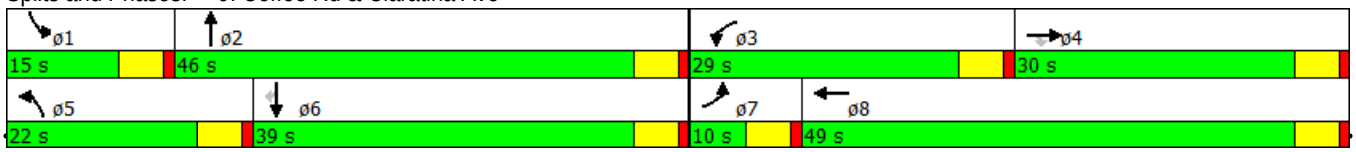
9: Coffee Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	720	250	220	1800	60	460	230	150	60	300	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		0	300		0	300		300
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1474			3364			1337			1336	
Travel Time (s)		22.3			41.7			20.3			20.2	
Confl. Peds. (#/hr)						5						5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	21.0
Total Split (s)	10.0	30.0	30.0	29.0	49.0		22.0	46.0		15.0	39.0	39.0
Total Split (%)	8.3%	25.0%	25.0%	24.2%	40.8%		18.3%	38.3%		12.5%	32.5%	32.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Coffee Rd & Claratina Ave



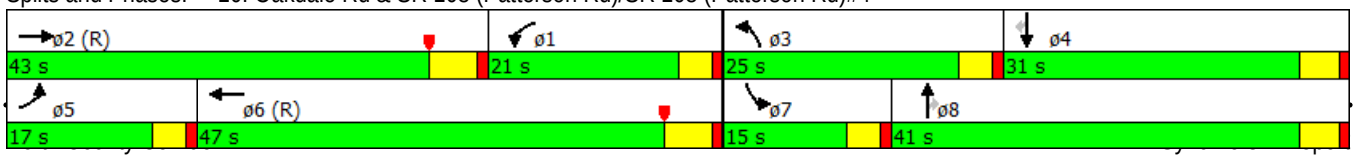
10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	480	100	260	650	50	140	90	220	70	140	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		0	200		0	150		75
Storage Lanes	1		0	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3274			2623			2223	
Travel Time (s)		42.0			63.8			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	17.0	43.0		21.0	47.0		25.0	41.0	41.0	15.0	31.0	31.0
Total Split (%)	14.2%	35.8%		17.5%	39.2%		20.8%	34.2%	34.2%	12.5%	25.8%	25.8%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	-0.6	-0.6	0.0	-0.6	-0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4



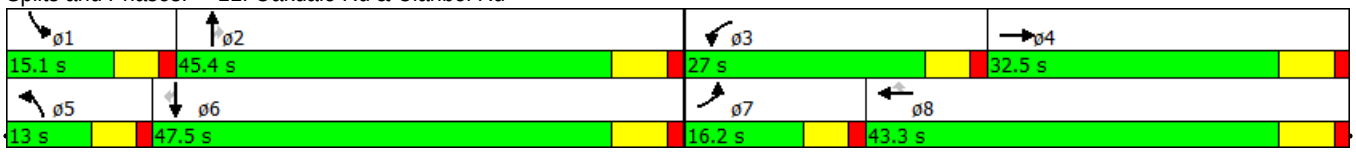
11: Oakdale Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	440	60	250	700	70	90	380	150	100	520	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	170		240	315		0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2604			1936			1627			4042	
Travel Time (s)		32.3			24.0			24.7			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.5	32.5		11.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	32.5
Total Split (s)	16.2	32.5		27.0	43.3	43.3	13.0	45.4	45.4	15.1	47.5	47.5
Total Split (%)	13.5%	27.1%		22.5%	36.1%	36.1%	10.8%	37.8%	37.8%	12.6%	39.6%	39.6%
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 111.6
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



12: Oakdale Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	450	300	30	850	30	800	380	40	30	670	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	500		0	300		300
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1440			1326			2104			2250	
Travel Time (s)		17.9			16.4			31.9			34.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0
Total Split (s)	11.0	25.0	25.0	10.0	24.0	24.0	36.0	54.0		11.0	29.0	29.0
Total Split (%)	11.0%	25.0%	25.0%	10.0%	24.0%	24.0%	36.0%	54.0%		11.0%	29.0%	29.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 97.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Oakdale Rd & Claratina Ave

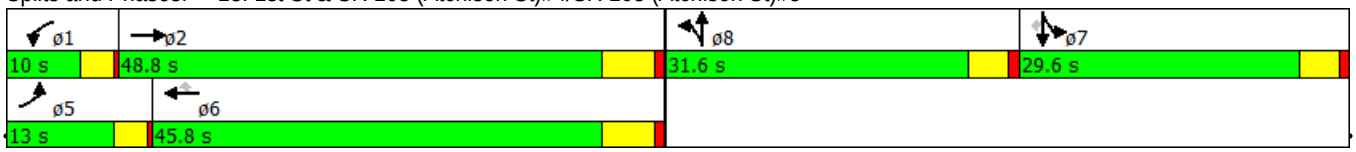
13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	540	40	40	510	260	70	250	50	180	200	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	75		150	250		0	175		100
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3283			3394			1265			1732	
Travel Time (s)		64.0			66.1			28.8			39.4	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	23%	23%	23%	23%	23%	23%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Detector Phase	5	2		1	6	6	8	8		7	7	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	29.6
Total Split (s)	13.0	48.8		10.0	45.8	45.8	31.6	31.6		29.6	29.6	29.6
Total Split (%)	10.8%	40.7%		8.3%	38.2%	38.2%	26.3%	26.3%		24.7%	24.7%	24.7%
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	-0.6	-0.6		-0.6	-0.6	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 110.6
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5



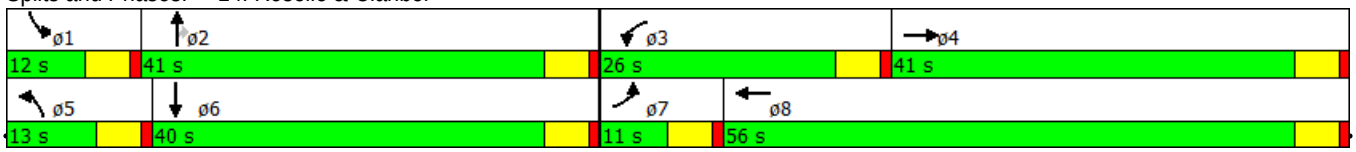
14: Roselle & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	400	160	340	420	90	130	360	250	80	400	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		0	300		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2444			2646			2348			2512	
Travel Time (s)		30.3			32.8			35.6			38.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0		9.0	21.0	21.0	9.0	21.0	
Total Split (s)	11.0	41.0		26.0	56.0		13.0	41.0	41.0	12.0	40.0	
Total Split (%)	9.2%	34.2%		21.7%	46.7%		10.8%	34.2%	34.2%	10.0%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None	

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 14: Roselle & Claribel



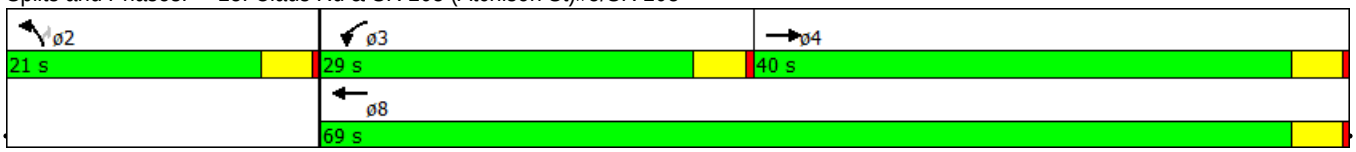
15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	550	160	350	660	190	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		300	400		0	150
Storage Lanes		1	1		1	1
Taper Length (ft)			60		60	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	883			934	1620	
Travel Time (s)	17.2			14.2	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		8.0	20.0	20.0	20.0
Total Split (s)	40.0		29.0	69.0	21.0	21.0
Total Split (%)	44.4%		32.2%	76.7%	23.3%	23.3%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	0.5		0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 66.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108



16: Claus Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	320	40	460	410	50	30	500	360	40	610	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		75	300		75	250		250	250		0
Storage Lanes	1		1	2		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		2195			2805			2202			2448	
Travel Time (s)		27.2			34.8			27.3			37.1	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	11.5	29.5	29.5	11.5	29.5	29.5	11.5	30.5		11.5	30.5	
Total Split (s)	20.0	32.0	32.0	44.0	56.0	56.0	12.3	31.7		12.3	31.7	
Total Split (%)	16.7%	26.7%	26.7%	36.7%	46.7%	46.7%	10.3%	26.4%		10.3%	26.4%	
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 95.9
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & Claribel Rd

17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	260	390	220	80	100	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	300
Storage Lanes	1			0	1	1
Taper Length (ft)	60				60	
Right Turn on Red				Yes		Yes
Link Speed (mph)		55	55		45	
Link Distance (ft)		2026	5382		1944	
Travel Time (s)		25.1	66.7		29.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	21%	21%	21%	21%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Detector Phase	7	4	8		6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.0	20.0	20.0		20.0	20.0
Total Split (s)	27.0	54.0	27.0		26.0	26.0
Total Split (%)	33.8%	67.5%	33.8%		32.5%	32.5%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min		None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 54.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 17: Patterson Rd & Crane Rd

18: Bentley & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	340	30	30	420	50	30	40	30	50	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		20	0		20
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		2761			2529			1526			1244	
Travel Time (s)		62.8			31.4			23.1			18.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

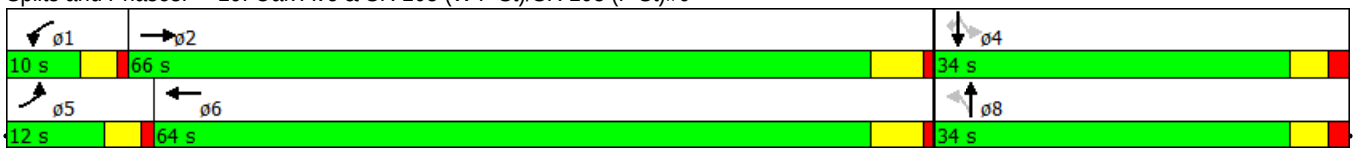
19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	730	60	60	620	80	110	70	40	130	80	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	250		300	250		0	100		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		1648			2595			1311			1681	
Travel Time (s)		28.1			59.0			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	19%	2%	2%	19%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3		9.0	29.3		32.0	32.0		34.0	34.0	34.0
Total Split (s)	12.0	66.0		10.0	64.0		34.0	34.0		34.0	34.0	34.0
Total Split (%)	10.9%	60.0%		9.1%	58.2%		30.9%	30.9%		30.9%	30.9%	30.9%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 52.3
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6



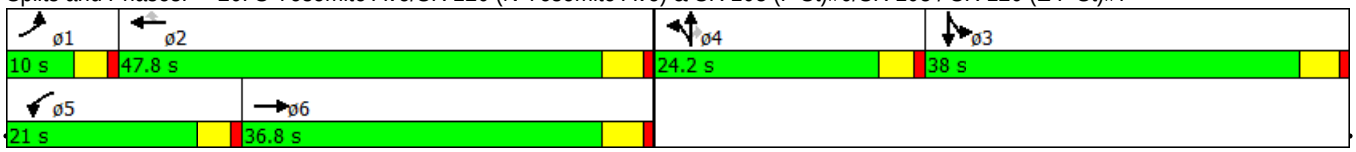
20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	680	90	240	520	420	110	330	200	430	380	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2713			2600			1983			5906	
Travel Time (s)		74.0			59.1			45.1			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	19%	19%	19%	19%	19%	19%	20%	20%	20%	20%	20%	20%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	10.0	36.8		21.0	47.8	47.8	24.2	24.2	24.2	38.0	38.0	
Total Split (%)	8.3%	30.7%		17.5%	39.8%	39.8%	20.2%	20.2%	20.2%	31.7%	31.7%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-0.6		0.0	-0.6	-0.6		-0.2	-0.2		-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 135
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7



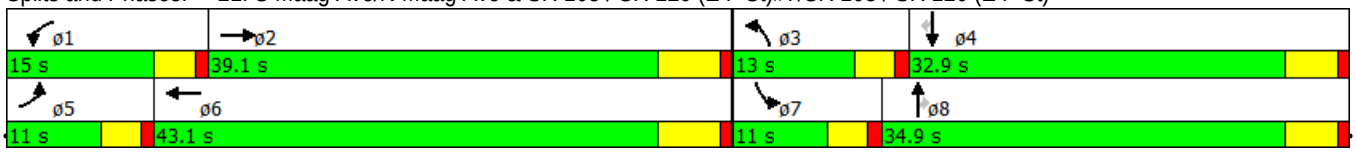
21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	750	180	170	790	50	280	120	100	50	160	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2050			2745			1922			2964	
Travel Time (s)		39.9			53.5			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	19%	2%	2%	19%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	11.0	39.1		15.0	43.1		13.0	34.9	34.9	11.0	32.9	32.9
Total Split (%)	11.0%	39.1%		15.0%	43.1%		13.0%	34.9%	34.9%	11.0%	32.9%	32.9%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	-0.9	-0.9	0.0	-0.9	-0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 82.4
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)



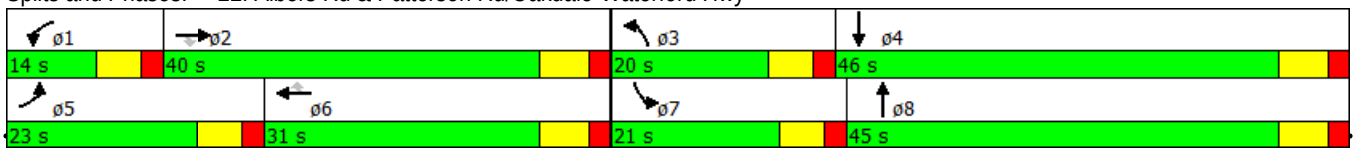
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	50	40	30	240	160	170	720	20	110	860	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2285			1544			2026	
Travel Time (s)		70.0			28.3			19.1			25.1	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	21%	21%	21%	21%	21%	21%	16%	16%	16%	16%	16%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	29.5	29.5	14.0	29.5	29.5	14.0	29.5		14.0	29.5	
Total Split (s)	23.0	40.0	40.0	14.0	31.0	31.0	20.0	45.0		21.0	46.0	
Total Split (%)	19.2%	33.3%	33.3%	11.7%	25.8%	25.8%	16.7%	37.5%		17.5%	38.3%	
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5		4.0	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5	-2.5	-2.0	-2.5	-2.5	-2.0	-2.5		-2.0	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 116.6
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



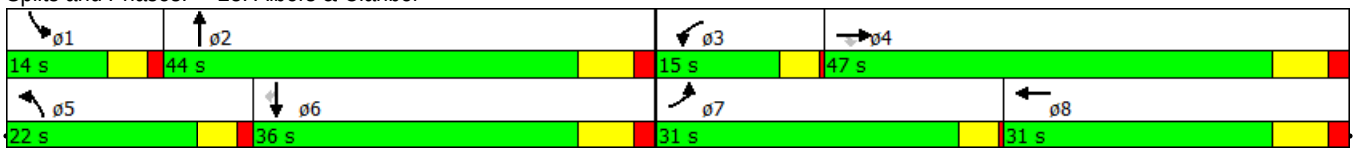
23: Albers & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	80	100	40	190	30	120	600	40	30	650	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	18%	18%	18%	18%	18%	18%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	31.0	47.0	47.0	15.0	31.0		22.0	44.0		14.0	36.0	36.0
Total Split (%)	25.8%	39.2%	39.2%	12.5%	25.8%		18.3%	36.7%		11.7%	30.0%	30.0%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 109.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel



101: SR 219 (Kiernan Ave)#1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	750	60	0	1690	70	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		50	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3702			1550			380			330	
Travel Time (s)		45.9			19.2			8.6			7.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

103: Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	640	0	0	1730	10	0	0	170	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2728			2546			394			400	
Travel Time (s)		33.8			31.6			9.0			9.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

109: Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	610	20	0	1010	0	0	0	0	0	0	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2696			2604			289			323	
Travel Time (s)		33.4			32.3			6.6			7.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

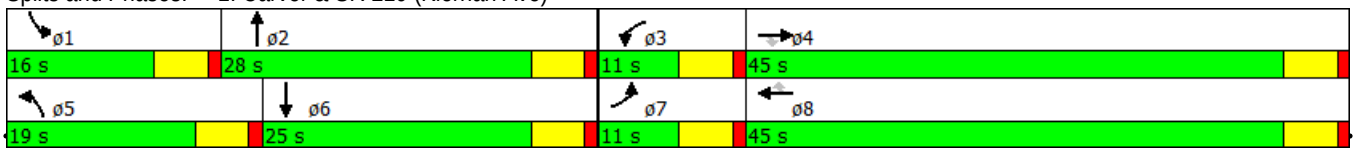
1: Carver & SR 219 (Kiernan Ave)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	1500	270	60	1640	60	160	110	160	120	90	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	11.0	45.0	45.0	11.0	45.0	45.0	19.0	28.0		16.0	25.0	
Total Split (%)	11.0%	45.0%	45.0%	11.0%	45.0%	45.0%	19.0%	28.0%		16.0%	25.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 89.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & SR 219 (Kiernan Ave)



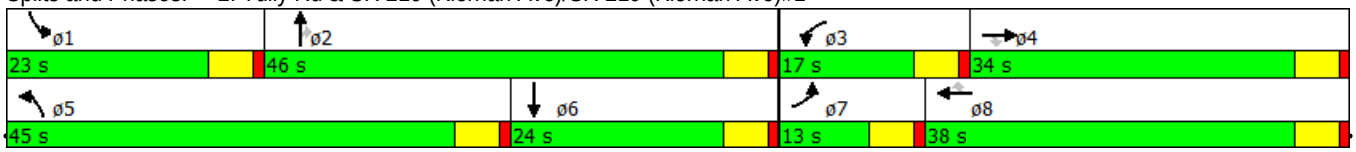
2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	1270	430	380	1090	50	630	220	320	130	210	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	660		415	0		400	300		0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (ft)	60			60			0			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			3702			3753			4028	
Travel Time (s)		32.5			45.9			51.2			54.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	
Total Split (s)	13.0	34.0	34.0	17.0	38.0	38.0	45.0	46.0	46.0	23.0	24.0	
Total Split (%)	10.8%	28.3%	28.3%	14.2%	31.7%	31.7%	37.5%	38.3%	38.3%	19.2%	20.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & SR 219 (Kiernan Ave)/SR 219 (Kiernan Ave)#1



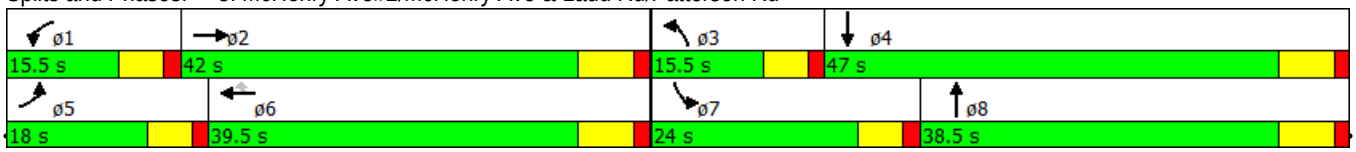
3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	470	40	20	500	120	50	640	20	300	650	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	38.5		15.5	38.5	38.5	15.5	38.5		15.5	38.5	
Total Split (s)	18.0	42.0		15.5	39.5	39.5	15.5	38.5		24.0	47.0	
Total Split (%)	15.0%	35.0%		12.9%	32.9%	32.9%	12.9%	32.1%		20.0%	39.2%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 117.5
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd



4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	20	690	360	0	710
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	0				0	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	18.0		52.0			52.0
Total Split (%)	25.7%		74.3%			74.3%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 54.1
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

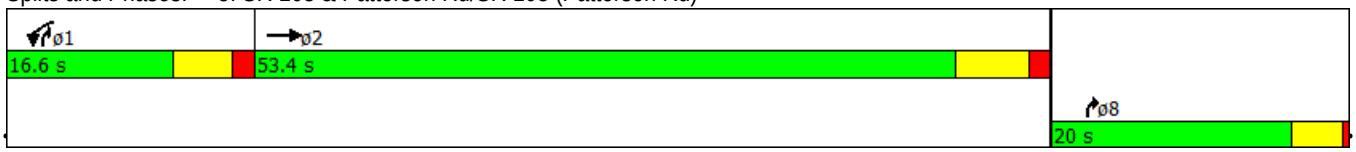
5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	770	20	140	640	0	360	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		0		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	8%	8%	8%	8%	9%	9%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	53.4		16.6				20.0
Total Split (%)	59.3%		18.4%				22%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 81.3
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

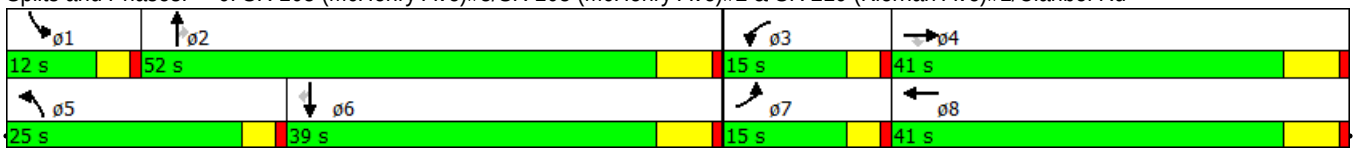


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	1040	590	250	910	70	270	750	510	70	520	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	775		660	975		0	260		0	420		535
Storage Lanes	2		1	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			50	
Link Distance (ft)		1550			2728			2021			602	
Travel Time (s)		19.2			33.8			30.6			8.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.0	35.0	35.0	9.0	35.0		9.0	28.0	28.0	9.0	37.0	37.0
Total Split (s)	15.0	41.0	41.0	15.0	41.0		25.0	52.0	52.0	12.0	39.0	39.0
Total Split (%)	12.5%	34.2%	34.2%	12.5%	34.2%		20.8%	43.3%	43.3%	10.0%	32.5%	32.5%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0		3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0		0.0	-2.0	-2.0	0.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 111.8
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & SR 219 (Kiernan Ave)#1/Claribel Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	330	2290	360	300	1240	460	450	1100	210	680	1700	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		350	300		350	225		200	500		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	60			60			60			120		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4998			2355			3932			1873	
Travel Time (s)		75.7			35.7			67.0			31.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	9%	9%	9%	9%	9%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.0	15.7	15.7	9.0	15.7	10.7	9.0	15.7	15.7	10.7	15.7	
Total Split (s)	20.0	39.0	39.0	14.0	33.0	34.0	16.0	33.0	33.0	34.0	51.0	
Total Split (%)	16.7%	32.5%	32.5%	11.7%	27.5%	28.3%	13.3%	27.5%	27.5%	28.3%	42.5%	
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

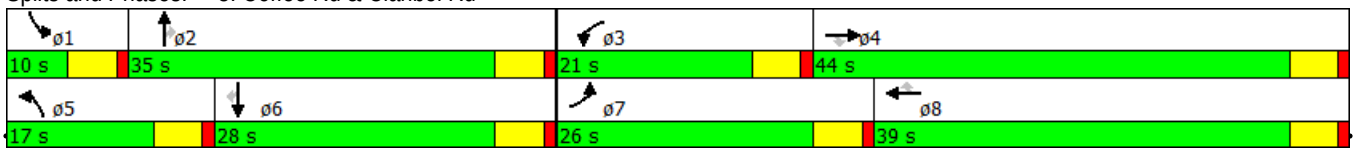
8: Coffee Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	840	370	180	890	30	100	400	390	50	220	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	320		250	420		240	260		0	110		260
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2546			2696			1576			2024	
Travel Time (s)		31.6			33.4			23.9			30.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	26.5	26.5	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	26.0	44.0	44.0	21.0	39.0	39.0	17.0	35.0	35.0	10.0	28.0	28.0
Total Split (%)	23.6%	40.0%	40.0%	19.1%	35.5%	35.5%	15.5%	31.8%	31.8%	9.1%	25.5%	25.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 101.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd & Claribel Rd



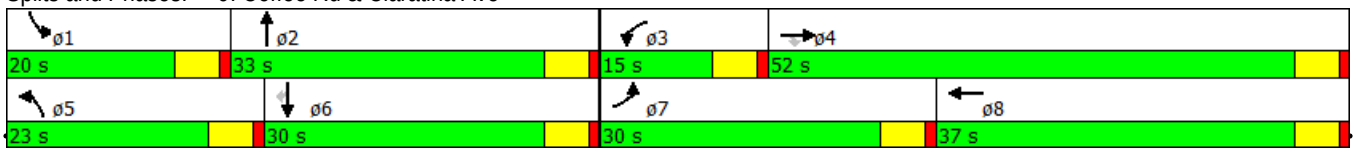
9: Coffee Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	610	1970	470	180	1340	80	310	530	340	250	240	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		0	300		0	300		300
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		2680			3364			1337			1336	
Travel Time (s)		40.6			41.7			20.3			20.2	
Confl. Peds. (#/hr)						5						5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	21.0
Total Split (s)	30.0	52.0	52.0	15.0	37.0		23.0	33.0		20.0	30.0	30.0
Total Split (%)	25.0%	43.3%	43.3%	12.5%	30.8%		19.2%	27.5%		16.7%	25.0%	25.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Coffee Rd & Claratina Ave



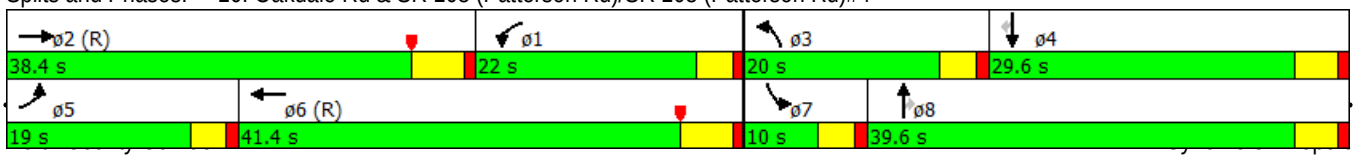
10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	700	170	460	430	50	190	210	270	60	180	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		0	200		0	150		75
Storage Lanes	1		0	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3274			2623			2223	
Travel Time (s)		42.0			63.8			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	19.0	38.4		22.0	41.4		20.0	39.6	39.6	10.0	29.6	29.6
Total Split (%)	17.3%	34.9%		20.0%	37.6%		18.2%	36.0%	36.0%	9.1%	26.9%	26.9%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	0.6	0.6	0.0	0.6	0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	5.2	5.2	4.0	5.2	5.2
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4



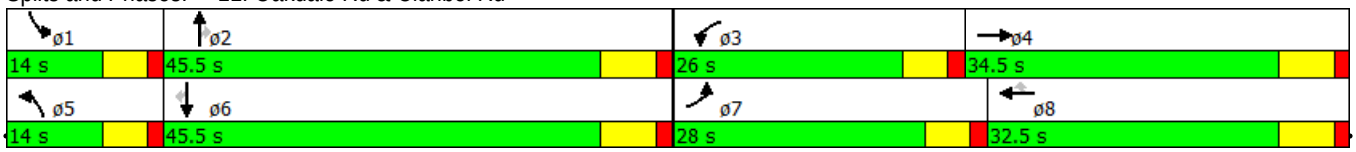
11: Oakdale Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	570	100	260	620	100	80	540	310	110	560	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	170		240	315		0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2604			1936			1631			4042	
Travel Time (s)		32.3			24.0			24.7			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	8%	8%	8%	8%	8%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.5	32.5		11.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	32.5
Total Split (s)	28.0	34.5		26.0	32.5	32.5	14.0	45.5	45.5	14.0	45.5	45.5
Total Split (%)	23.3%	28.8%		21.7%	27.1%	27.1%	11.7%	37.9%	37.9%	11.7%	37.9%	37.9%
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 116.8
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



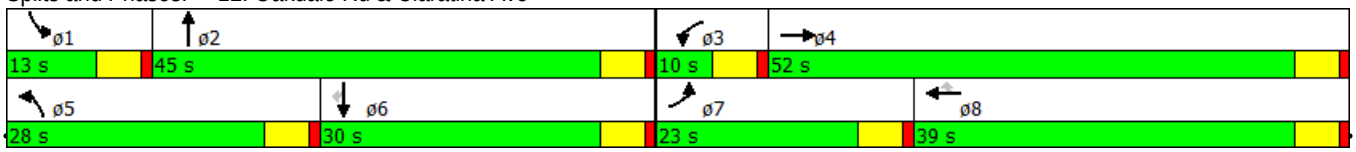
12: Oakdale Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	1310	960	60	780	40	610	790	100	70	660	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	500		0	300		300
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1440			1326			2104			2250	
Travel Time (s)		17.9			16.4			31.9			34.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0
Total Split (s)	23.0	52.0		10.0	39.0	39.0	28.0	45.0		13.0	30.0	30.0
Total Split (%)	19.2%	43.3%		8.3%	32.5%	32.5%	23.3%	37.5%		10.8%	25.0%	25.0%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Oakdale Rd & Claratina Ave



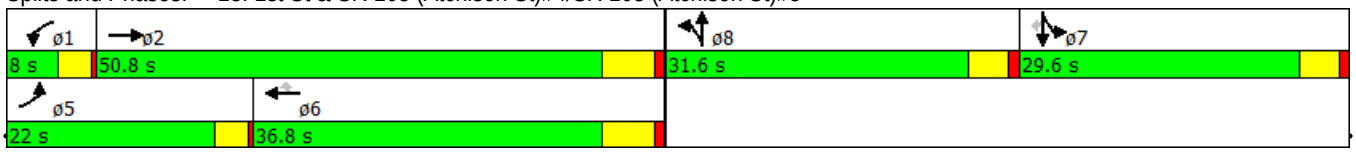
13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	580	40	50	490	150	70	310	50	300	200	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	75		150	250		0	175		100
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	0			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3283			3394			1265			1732	
Travel Time (s)		64.0			66.1			28.8			39.4	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	16%	16%	16%	16%	16%	16%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Detector Phase	5	2		1	6	6	8	8		7	7	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	29.6
Total Split (s)	22.0	50.8		8.0	36.8	36.8	31.6	31.6		29.6	29.6	29.6
Total Split (%)	18.3%	42.3%		6.7%	30.7%	30.7%	26.3%	26.3%		24.7%	24.7%	24.7%
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	0.6	0.6		0.6	0.6	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	5.2	5.2		5.2	5.2	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5



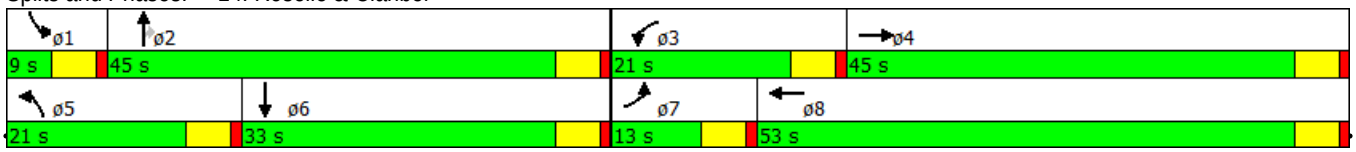
14: Roselle & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	450	240	290	520	90	280	510	390	60	360	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		0	300		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2444			2646			2348			2512	
Travel Time (s)		30.3			32.8			35.6			38.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0		9.0	21.0	21.0	9.0	21.0	
Total Split (s)	13.0	45.0		21.0	53.0		21.0	45.0	45.0	9.0	33.0	
Total Split (%)	10.8%	37.5%		17.5%	44.2%		17.5%	37.5%	37.5%	7.5%	27.5%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None	

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 14: Roselle & Claribel



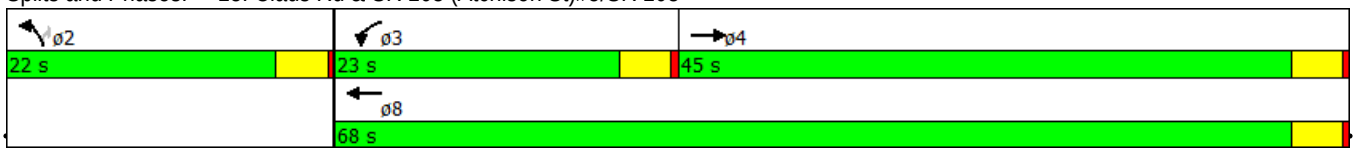
15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	660	220	280	530	220	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		300	400		0	150
Storage Lanes		1	1		1	1
Taper Length (ft)			60		0	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	883			943	1620	
Travel Time (s)	17.2			14.3	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	6%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		8.0	20.0	20.0	20.0
Total Split (s)	45.0		23.0	68.0	22.0	22.0
Total Split (%)	50.0%		25.6%	75.6%	24.4%	24.4%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	0.5		0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 69
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108



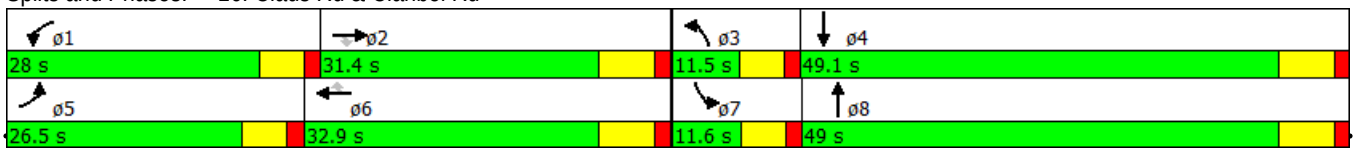
16: Claus Rd & Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	270	60	560	290	40	40	620	560	50	650	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		75	300		75	250		250	250		0
Storage Lanes	1		1	2		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		2195			2805			2202			2448	
Travel Time (s)		27.2			34.8			27.3			37.1	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	11.5	29.5	29.5	11.5	29.5	29.5	11.5	30.5		11.5	30.5	
Total Split (s)	26.5	31.4	31.4	28.0	32.9	32.9	11.5	49.0		11.6	49.1	
Total Split (%)	22.1%	26.2%	26.2%	23.3%	27.4%	27.4%	9.6%	40.8%		9.7%	40.9%	
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 112.9
Natural Cycle: 105
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & Claribel Rd



17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	630	290	410	150	140	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	300
Storage Lanes	1			0	1	1
Taper Length (ft)	60				0	
Right Turn on Red				Yes		Yes
Link Speed (mph)		55	55		45	
Link Distance (ft)		2026	5340		1944	
Travel Time (s)		25.1	66.2		29.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	16%	16%	16%	16%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Detector Phase	7	4	8		6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.0	20.0	20.0		20.0	20.0
Total Split (s)	54.0	99.0	45.0		21.0	21.0
Total Split (%)	45.0%	82.5%	37.5%		17.5%	17.5%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min		None	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 117.5
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 17: Patterson Rd & Crane Rd

18: Bentley & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	410	30	30	360	60	30	40	30	80	90	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		20	0		20
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	0			0			0			0		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		2761			2529			1526			1244	
Travel Time (s)		62.8			31.4			23.1			18.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

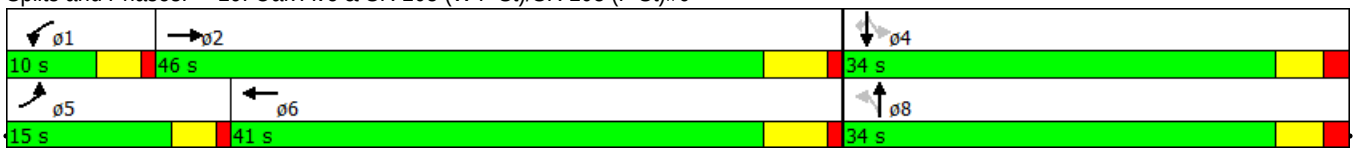
19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	800	50	40	760	80	110	60	80	100	60	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	250		300	250		0	100		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		1648			2651			1311			1681	
Travel Time (s)		28.1			60.3			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	13%	2%	2%	13%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3		9.0	29.3		32.0	32.0		34.0	34.0	34.0
Total Split (s)	15.0	46.0		10.0	41.0		34.0	34.0		34.0	34.0	34.0
Total Split (%)	16.7%	51.1%		11.1%	45.6%		37.8%	37.8%		37.8%	37.8%	37.8%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 52.8
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

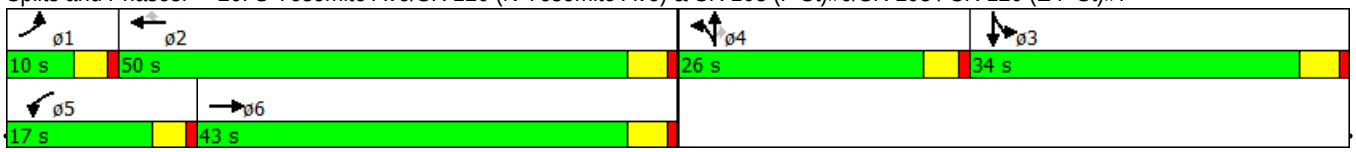


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	800	100	170	740	470	120	480	240	390	410	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			0		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2796			2628			1983			5906	
Travel Time (s)		76.3			59.7			45.1			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	15%	15%	15%	15%	15%	15%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	10.0	43.0		17.0	50.0	50.0	26.0	26.0	26.0	34.0	34.0	
Total Split (%)	8.3%	35.8%		14.2%	41.7%	41.7%	21.7%	21.7%	21.7%	28.3%	28.3%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.6		0.0	0.6	0.6		0.2	0.2		0.6	
Total Lost Time (s)	4.0	5.2		4.0	5.2	5.2		4.4	4.4		5.2	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 145
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7



21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	920	190	130	980	60	180	190	180	60	140	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2055			2745			1922			2964	
Travel Time (s)		40.0			53.5			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	13%	2%	2%	13%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	14.0	44.1		13.0	43.1		10.0	33.9	33.9	9.0	32.9	32.9
Total Split (%)	14.0%	44.1%		13.0%	43.1%		10.0%	33.9%	33.9%	9.0%	32.9%	32.9%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	0.9	0.9	0.0	0.9	0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	5.8	5.8	4.0	5.8	5.8
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 81.7
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

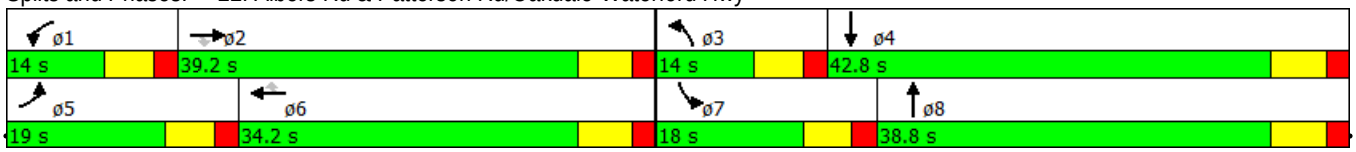
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	400	140	20	70	140	40	830	30	160	600	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5582			2285			1544			2026	
Travel Time (s)		69.2			28.3			19.1			25.1	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	16%	16%	16%	16%	16%	16%	12%	12%	12%	12%	12%	12%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	29.5	29.5	14.0	29.5	29.5	14.0	29.5		14.0	29.5	
Total Split (s)	19.0	39.2	39.2	14.0	34.2	34.2	14.0	38.8		18.0	42.8	
Total Split (%)	17.3%	35.6%	35.6%	12.7%	31.1%	31.1%	12.7%	35.3%		16.4%	38.9%	
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5		4.0	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5	-2.5	-2.0	-2.5	-2.5	-2.0	-2.5		-2.0	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 95
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



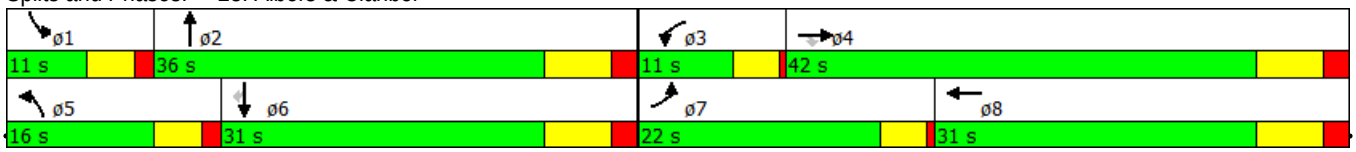
23: Albers & Claribel

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	120	180	40	80	30	130	610	50	30	520	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	22.0	42.0	42.0	11.0	31.0		16.0	36.0		11.0	31.0	31.0
Total Split (%)	22.0%	42.0%	42.0%	11.0%	31.0%		16.0%	36.0%		11.0%	31.0%	31.0%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 79.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel



101: SR 219 (Kiernan Ave)#1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1720	0	0	1470	0	0	0	180	0	0	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		50	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	0			0			0			0		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3702			1550			380			330	
Travel Time (s)		45.9			19.2			8.6			7.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

103: Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1460	160	0	1210	0	0	0	0	0	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	0			0			0			0		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2728			2546			394			400	
Travel Time (s)		33.8			31.6			9.0			9.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

109: Claribel Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	970	310	0	930	0	0	0	0	0	0	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	0			0			0			0		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2696			2604			289			323	
Travel Time (s)		33.4			32.3			6.6			7.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Yield			Yield	

Intersection Summary

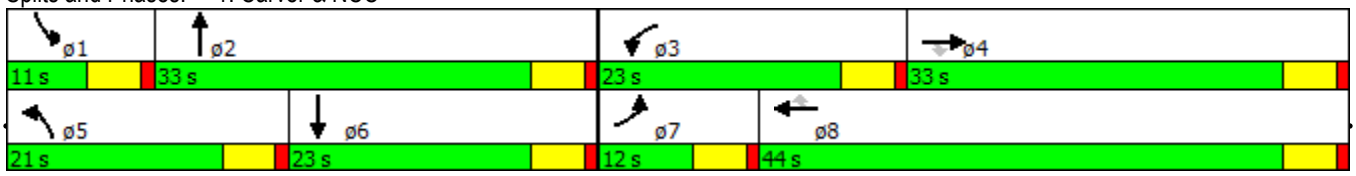
Area Type: Other
Control Type: Unsignalized

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	1190	140	240	1700	70	220	80	40	30	140	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Total Split (s)	12.0	33.0	33.0	23.0	44.0	44.0	21.0	33.0		11.0	23.0	
Total Split (%)	12.0%	33.0%	33.0%	23.0%	44.0%	44.0%	21.0%	33.0%		11.0%	23.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 96.6
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC

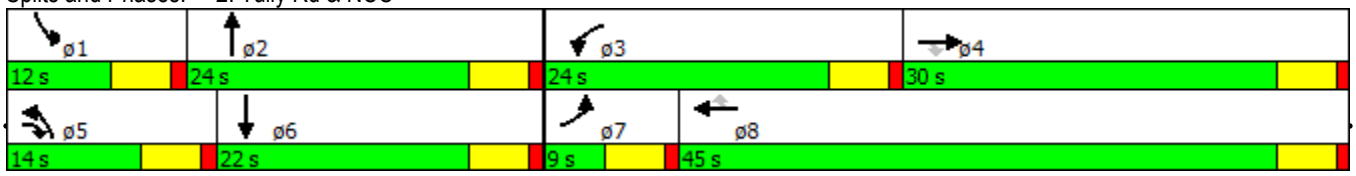


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	790	420	660	1780	50	170	90	170	40	110	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	9.0	30.0	14.0	24.0	45.0	45.0	14.0	24.0		12.0	22.0	
Total Split (%)	10.0%	33.3%	15.6%	26.7%	50.0%	50.0%	15.6%	26.7%		13.3%	24.4%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 75.4
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



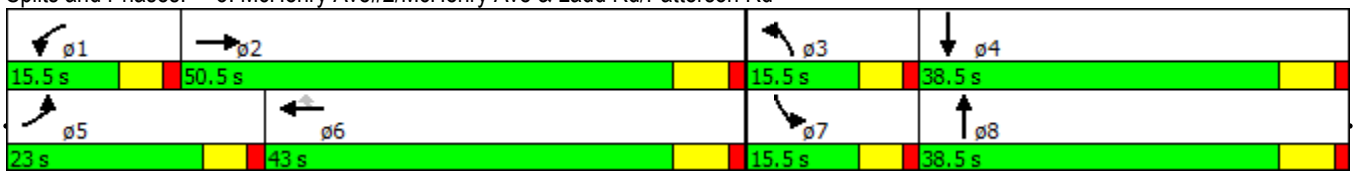
3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	180	70	20	550	150	40	450	20	80	540	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	90		160	185		0	290		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			35			50			50	
Link Distance (ft)		5506			590			541			5205	
Travel Time (s)		68.3			11.5			7.4			71.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						
Detector Phase	5	2		1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	15.0		10.0	15.0	
Minimum Split (s)	15.5	38.5		15.5	38.5	38.5	15.5	38.5		15.5	38.5	
Total Split (s)	23.0	50.5		15.5	43.0	43.0	15.5	38.5		15.5	38.5	
Total Split (%)	19.2%	42.1%		12.9%	35.8%	35.8%	12.9%	32.1%		12.9%	32.1%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.0		4.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5		-1.5	-2.5	-2.5	-1.5	-2.5		-1.5	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 114
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: McHenry Ave#2/McHenry Ave & Ladd Rd/Patterson Rd



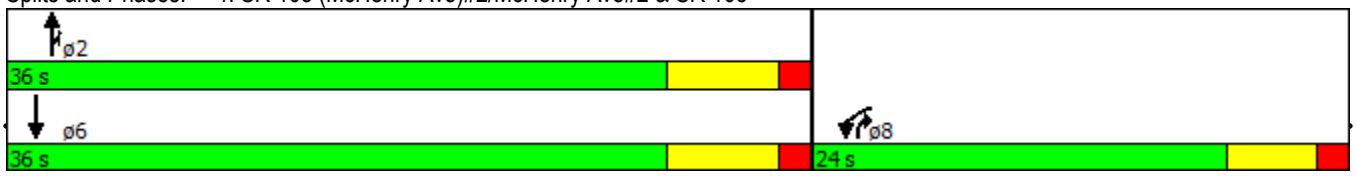
4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	280	20	490	80	0	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		50			50
Link Distance (ft)	778		630			541
Travel Time (s)	15.2		8.6			7.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot		NA	custom		NA
Protected Phases	8		2	2 8		6
Permitted Phases				2 8		
Detector Phase	8		2	2 8		6
Switch Phase						
Minimum Initial (s)	10.0		15.0			15.0
Minimum Split (s)	15.5		21.5			21.5
Total Split (s)	24.0		36.0			36.0
Total Split (%)	40.0%		60.0%			60.0%
Yellow Time (s)	4.0		5.0			5.0
All-Red Time (s)	1.5		1.5			1.5
Lost Time Adjust (s)	-1.5		-2.5			-2.5
Total Lost Time (s)	4.0		4.0			4.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min			Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 46.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: SR 108 (McHenry Ave)#2/McHenry Ave#2 & SR 108



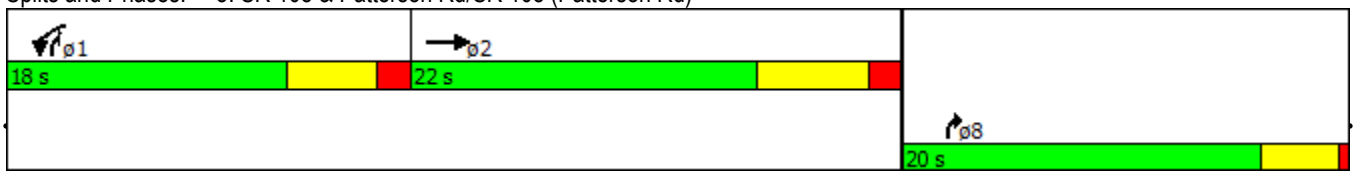
5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø8
Lane Configurations							
Volume (vph)	260	20	280	720	0	80	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	530		0	0	
Storage Lanes		0	1		0	1	
Taper Length (ft)			60		60		
Right Turn on Red		Yes				Yes	
Link Speed (mph)	35			50	35		
Link Distance (ft)	590			3715	778		
Travel Time (s)	11.5			50.7	15.2		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	9%	9%	9%	9%	13%	13%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Shared Lane Traffic (%)							
Turn Type	NA		Prot	NA		pt+ov	
Protected Phases	2		1	Free		1 8	8
Permitted Phases						8	
Detector Phase	2		1			1 8	
Switch Phase							
Minimum Initial (s)	15.0		10.0				4.0
Minimum Split (s)	21.5		15.5				20.0
Total Split (s)	22.0		18.0				20.0
Total Split (%)	36.7%		30.0%				33%
Yellow Time (s)	5.0		4.0				3.5
All-Red Time (s)	1.5		1.5				0.5
Lost Time Adjust (s)	-2.5		-1.5				
Total Lost Time (s)	4.0		4.0				
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	Min		None				None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 44.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: SR 108 & Patterson Rd/SR 108 (Patterson Rd)



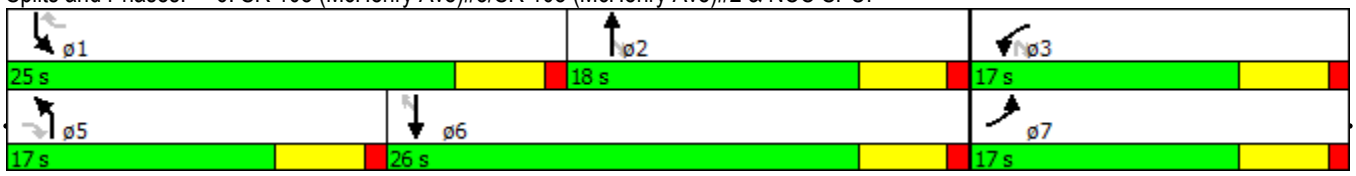
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	40	140	330	250	130	410	140	50	530	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		2		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			No			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	17.0	17.0	17.0	25.0	17.0	18.0		25.0	26.0	26.0
Total Split (%)	28.3%	28.3%	28.3%	41.7%	28.3%	30.0%		41.7%	43.3%	43.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 50.2
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI



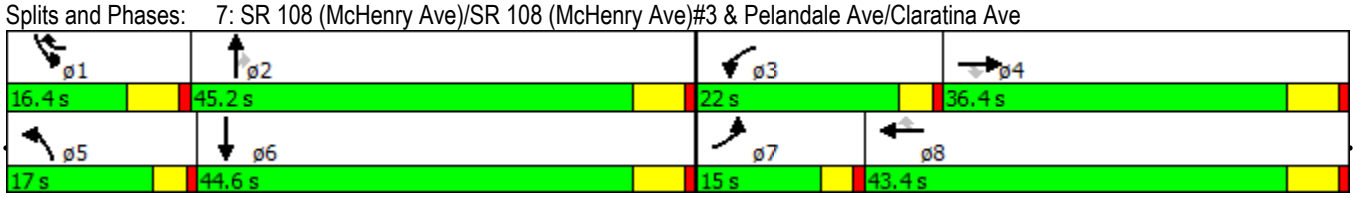
7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	320	910	240	410	1590	440	310	920	290	160	670	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	350		350	300		350	225		200	500		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	60			60			60			120		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4998			3590			3932			1543	
Travel Time (s)		75.7			54.4			67.0			26.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.0	33.7	33.7	9.0	32.7	10.7	9.0	43.7	43.7	10.7	43.7	
Total Split (s)	15.0	36.4	36.4	22.0	43.4	16.4	17.0	45.2	45.2	16.4	44.6	
Total Split (%)	12.5%	30.3%	30.3%	18.3%	36.2%	13.7%	14.2%	37.7%	37.7%	13.7%	37.2%	
Yellow Time (s)	3.0	4.7	4.7	3.0	4.7	4.7	3.0	4.7	4.7	4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	-1.7	0.0	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 111.4
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: SR 108 (McHenry Ave)/SR 108 (McHenry Ave)#3 & Pelandale Ave/Claratina Ave

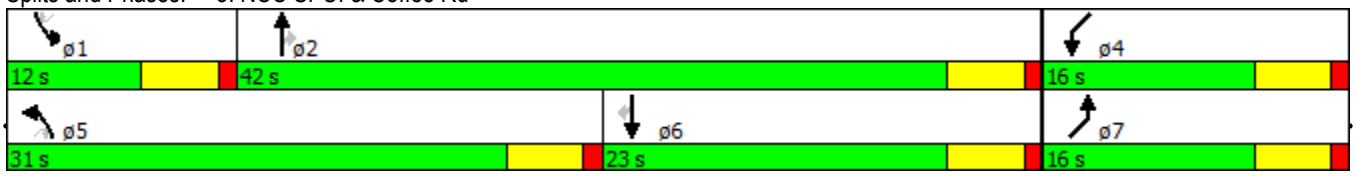


Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	440	190	350	30	290	430	80	70	370	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	650			650			500		500	
Storage Lanes	1			1			1		2	
Taper Length (ft)	120			120			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		1052			1060					
Travel Time (s)		15.9			16.1					
Confl. Peds. (#/hr)										
Confl. Bikes (#/hr)										
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		7		4	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	7	5	4	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	31.0	42.0	42.0	12.0	23.0	23.0	16.0	31.0	16.0	12.0
Total Split (%)	44.3%	60.0%	60.0%	17.1%	32.9%	32.9%	22.9%	44.3%	22.9%	17.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 59.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: NCC SPUI & Coffee Rd

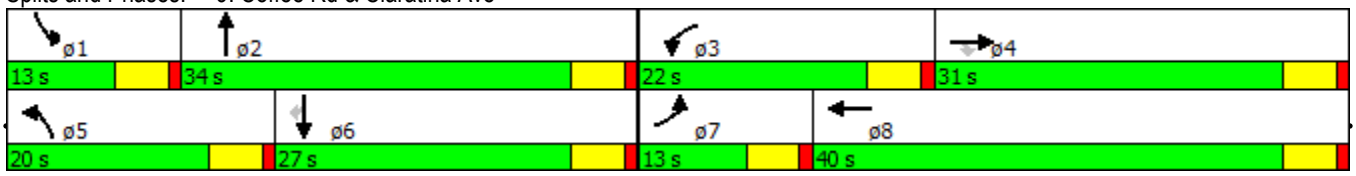


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	780	250	160	1530	110	440	450	150	60	430	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		0	300		0	300		300
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1474			3364			1337			1327	
Travel Time (s)		22.3			41.7			20.3			20.1	
Confl. Peds. (#/hr)						5						5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	21.0
Total Split (s)	13.0	31.0	31.0	22.0	40.0		20.0	34.0		13.0	27.0	27.0
Total Split (%)	13.0%	31.0%	31.0%	22.0%	40.0%		20.0%	34.0%		13.0%	27.0%	27.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 97.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Coffee Rd & Claratina Ave



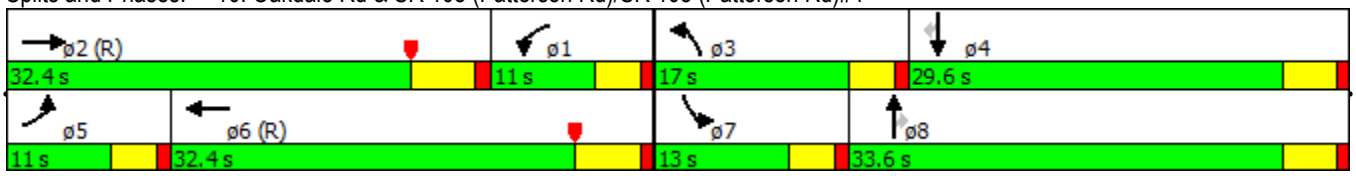
10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	220	40	150	570	50	140	60	90	70	70	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	525		0	625		0	200		0	150		75
Storage Lanes	1		0	2		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			No			Yes
Link Speed (mph)		45			35			40			35	
Link Distance (ft)		2769			3274			2623			2223	
Travel Time (s)		42.0			63.8			44.7			43.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	12.0		4.0	12.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	31.3		8.0	29.3		8.0	32.6	32.6	8.0	29.6	29.6
Total Split (s)	11.0	32.4		11.0	32.4		17.0	33.6	33.6	13.0	29.6	29.6
Total Split (%)	12.2%	36.0%		12.2%	36.0%		18.9%	37.3%	37.3%	14.4%	32.9%	32.9%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.0	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		0.0	-0.6	-0.6	0.0	-0.6	-0.6
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Oakdale Rd & SR 108 (Patterson Rd)/SR 108 (Patterson Rd)#4

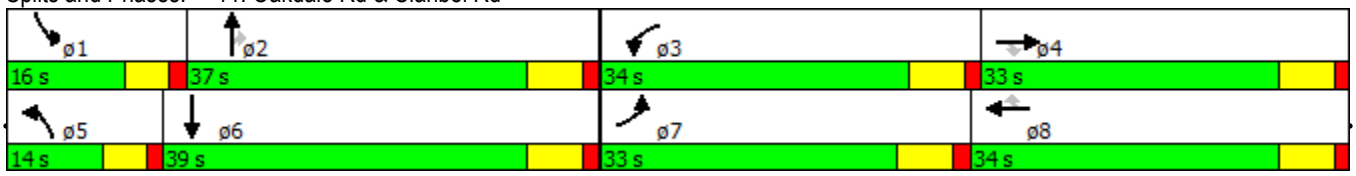


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	40	90	450	20	70	50	270	240	70	520	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	33.0	33.0	33.0	34.0	34.0	34.0	14.0	37.0	37.0	16.0	39.0	
Total Split (%)	27.5%	27.5%	27.5%	28.3%	28.3%	28.3%	11.7%	30.8%	30.8%	13.3%	32.5%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 74.1
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



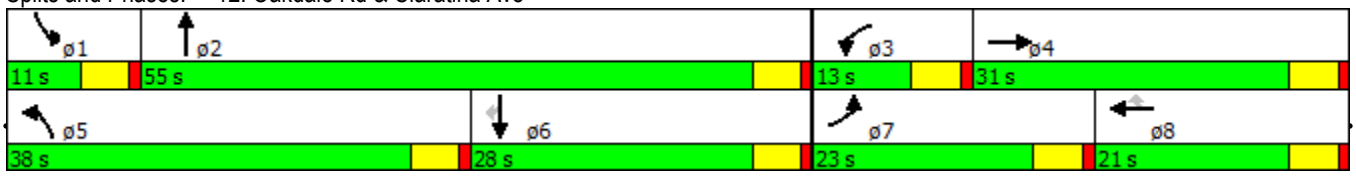
12: Oakdale Rd & Claratina Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	390	270	300	30	470	30	850	360	40	30	580	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	500		0	300		300
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1440			1326			2104			555	
Travel Time (s)		17.9			16.4			31.9			8.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0
Total Split (s)	23.0	31.0		13.0	21.0	21.0	38.0	55.0		11.0	28.0	28.0
Total Split (%)	20.9%	28.2%		11.8%	19.1%	19.1%	34.5%	50.0%		10.0%	25.5%	25.5%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 106.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Oakdale Rd & Claratina Ave



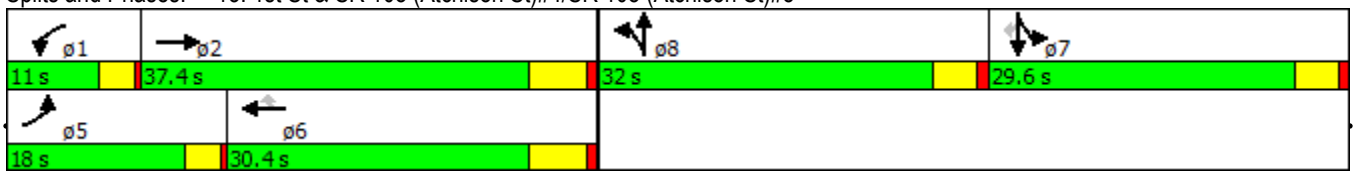
13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	120	40	40	200	220	70	250	50	160	200	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	75		150	250		0	175		100
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		3283			3394			1265			1732	
Travel Time (s)		64.0			66.1			28.8			39.4	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	23%	23%	23%	23%	23%	23%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						7
Detector Phase	5	2		1	6	6	8	8		7	7	7
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	8.0	29.7		8.0	29.7	29.7	31.6	31.6		29.6	29.6	29.6
Total Split (s)	18.0	37.4		11.0	30.4	30.4	32.0	32.0		29.6	29.6	29.6
Total Split (%)	16.4%	34.0%		10.0%	27.6%	27.6%	29.1%	29.1%		26.9%	26.9%	26.9%
Yellow Time (s)	3.0	4.7		3.0	4.7	4.7	3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	0.5	1.0		0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.7		0.5	-1.7	-1.7	-0.6	-0.6		-0.6	-0.6	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 88.3
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 1st St & SR 108 (Atchison St)#4/SR 108 (Atchison St)#5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	50	210	30	80	50	140	360	20	20	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	12.0	22.0	22.0	11.0	21.0	21.0	21.0	38.0		9.0	26.0	
Total Split (%)	15.0%	27.5%	27.5%	13.8%	26.3%	26.3%	26.3%	47.5%		11.3%	32.5%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: CBD
Cycle Length: 80
Actuated Cycle Length: 55.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 14: Roselle & Claribel Realigned

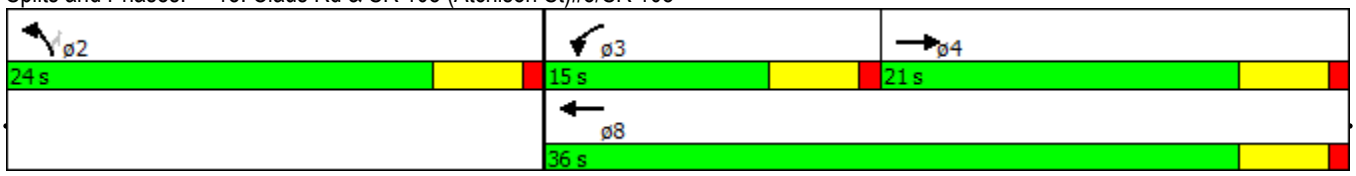
15: Claus Rd & SR 108 (Atchison St)#5/SR 108

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	130	140	100	360	110	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		300	400		0	150
Storage Lanes		1	1		1	1
Taper Length (ft)			60		60	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			45	45	
Link Distance (ft)	883			934	1620	
Travel Time (s)	17.2			14.2	24.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	9%	9%	9%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	21.0		9.0	21.0	21.0	21.0
Total Split (s)	21.0		15.0	36.0	24.0	24.0
Total Split (%)	35.0%		25.0%	60.0%	40.0%	40.0%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 35.4
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Claus Rd & SR 108 (Atchison St)#5/SR 108



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	1370	330	460	1220	60	350	190	430	60	230	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		840	520		720
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1700			840			1344	
Travel Time (s)		14.4			21.1			10.4			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	30.0	47.0	17.0	31.0	48.0	11.0	17.0	21.0	31.0	11.0	15.0	30.0
Total Split (%)	27.3%	42.7%	15.5%	28.2%	43.6%	10.0%	15.5%	19.1%	28.2%	10.0%	13.6%	27.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 95.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

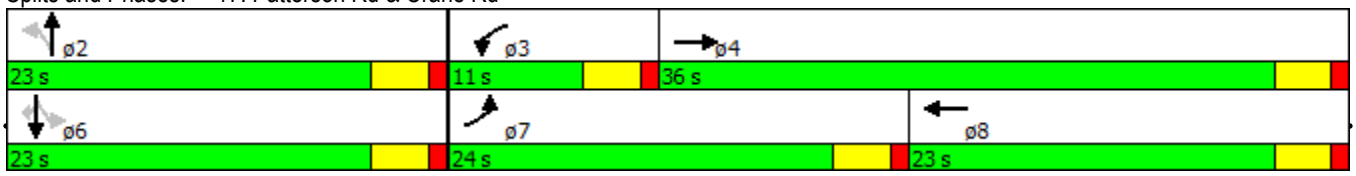
Splits and Phases: 16: Claus Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	80	50	50	170	80	50	10	50	60	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	200		0	0		300
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			45	
Link Distance (ft)		2918			5382			1523			860	
Travel Time (s)		36.2			66.7			34.6			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	20.0
Total Split (s)	24.0	36.0		11.0	23.0		23.0	23.0		23.0	23.0	23.0
Total Split (%)	34.3%	51.4%		15.7%	32.9%		32.9%	32.9%		32.9%	32.9%	32.9%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		Min	Min		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 46.4
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 17: Patterson Rd & Crane Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	130	30	30	300	50	30	20	30	20	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		20	0		20
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		2761			2529			1526			1244	
Travel Time (s)		62.8			31.4			23.1			18.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	8%	8%	8%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

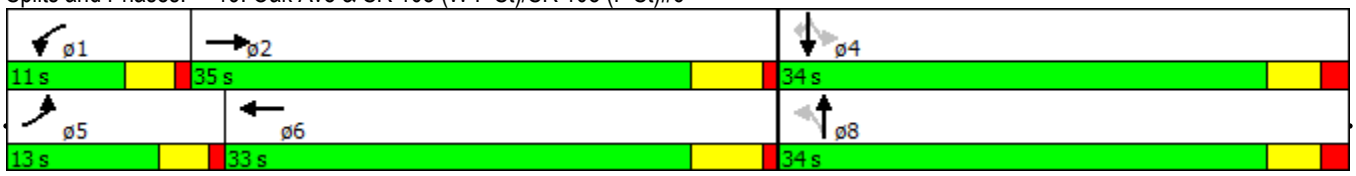
19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	390	60	60	290	80	110	70	40	130	80	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	250		300	250		0	100		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			30			30	
Link Distance (ft)		1648			2595			1311			1681	
Travel Time (s)		28.1			59.0			29.8			38.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	19%	2%	2%	19%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.0	25.3		9.0	29.3		32.0	32.0		34.0	34.0	34.0
Total Split (s)	13.0	35.0		11.0	33.0		34.0	34.0		34.0	34.0	34.0
Total Split (%)	16.3%	43.8%		13.8%	41.3%		42.5%	42.5%		42.5%	42.5%	42.5%
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.8	1.8		1.8	1.8	1.8
Lost Time Adjust (s)	0.0	-1.3		0.0	-1.3		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 39.4
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 19: Oak Ave & SR 108 (W F St)/SR 108 (F St)#6



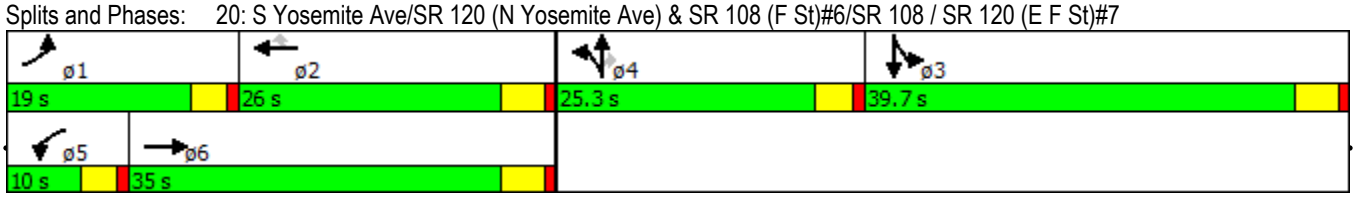
20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	320	90	20	200	320	110	330	40	320	460	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	50		200	300		0	850		300	0		0
Storage Lanes	1		1	1		1	1		1	0		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		2713			2600			1983			5906	
Travel Time (s)		74.0			59.1			45.1			134.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	19%	19%	19%	19%	19%	19%	20%	20%	20%	20%	20%	20%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	4	4	4	3	3	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	6.0	6.0	4.0	4.0	4.0	6.0	6.0	
Minimum Split (s)	10.0	24.6		10.0	24.6	24.6	24.2	24.2	24.2	24.6	24.6	
Total Split (s)	19.0	35.0		10.0	26.0	26.0	25.3	25.3	25.3	39.7	39.7	
Total Split (%)	17.3%	31.8%		9.1%	23.6%	23.6%	23.0%	23.0%	23.0%	36.1%	36.1%	
Yellow Time (s)	3.0	3.6		3.0	3.6	3.6	3.2	3.2	3.2	3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	-0.6		0.0	-0.6	-0.6		-0.2	-0.2		-0.6	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 101.1
Natural Cycle: 95
Control Type: Actuated-Uncoordinated

Splits and Phases: 20: S Yosemite Ave/SR 120 (N Yosemite Ave) & SR 108 (F St)#6/SR 108 / SR 120 (E F St)#7



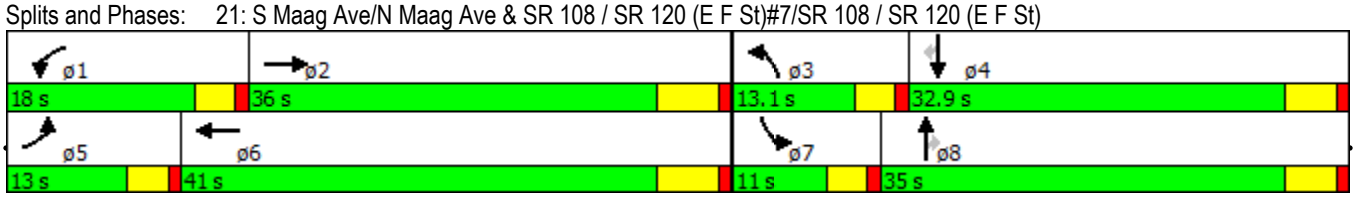
21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	250	160	170	190	50	280	120	100	50	160	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	250		0	200		0	200		50	100		100
Storage Lanes	1		0	1		0	2		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		2050			2745			1922			2964	
Travel Time (s)		39.9			53.5			37.4			80.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	19%	2%	2%	19%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	33.7		8.0	31.7		8.0	32.9	32.9	8.0	32.9	32.9
Total Split (s)	13.0	36.0		18.0	41.0		13.1	35.0	35.0	11.0	32.9	32.9
Total Split (%)	13.0%	36.0%		18.0%	41.0%		13.1%	35.0%	35.0%	11.0%	32.9%	32.9%
Yellow Time (s)	3.0	4.7		3.0	4.7		3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.7		0.0	-1.7		0.0	-0.9	-0.9	0.0	-0.9	-0.9
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 63.3
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 21: S Maag Ave/N Maag Ave & SR 108 / SR 120 (E F St)#7/SR 108 / SR 120 (E F St)



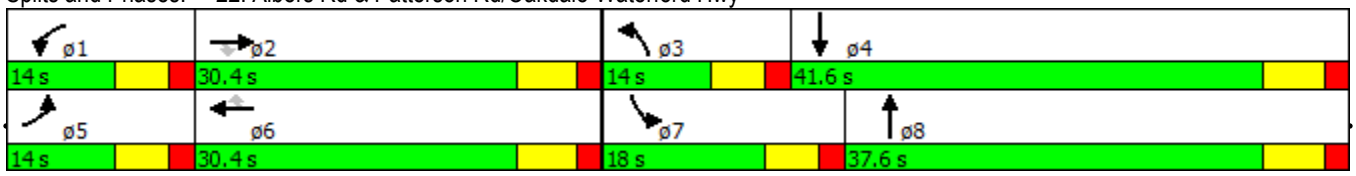
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	50	40	30	120	270	50	700	20	110	650	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2285			1544			2238	
Travel Time (s)		70.0			28.3			19.1			27.7	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	29.5	29.5	14.0	29.5	29.5	14.0	29.5		14.0	29.5	
Total Split (s)	14.0	30.4	30.4	14.0	30.4	30.4	14.0	37.6		18.0	41.6	
Total Split (%)	14.0%	30.4%	30.4%	14.0%	30.4%	30.4%	14.0%	37.6%		18.0%	41.6%	
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5		4.0	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5	-2.5	-2.0	-2.5	-2.5	-2.0	-2.5		-2.0	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 70.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

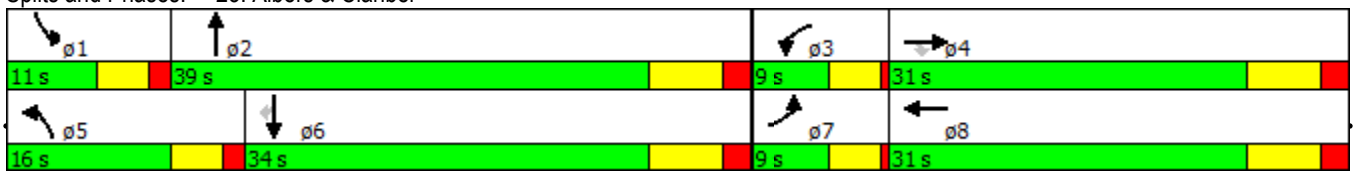


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	80	80	40	230	30	110	680	40	30	650	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	175		0	325		0	350		350
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2055			2655			1372			1438	
Travel Time (s)		25.5			32.9			20.8			21.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	18%	18%	18%	18%	18%	18%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	31.0	31.0	8.0	31.0		11.0	26.0		11.0	26.0	26.0
Total Split (s)	9.0	31.0	31.0	9.0	31.0		16.0	39.0		11.0	34.0	34.0
Total Split (%)	10.0%	34.4%	34.4%	10.0%	34.4%		17.8%	43.3%		12.2%	37.8%	37.8%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		3.5	5.0		3.5	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		1.5	2.0		1.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		5.0	7.0		5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 71.3
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Albers & Claribel



Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	90	40	260	70	80	400	470	100	430	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	16.0	14.0	16.0	15.0	14.0	39.0	39.0	15.0	40.0	40.0
Total Split (%)	22.9%	20.0%	22.9%	21.4%	20.0%	55.7%	55.7%	21.4%	57.1%	57.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 45.7
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

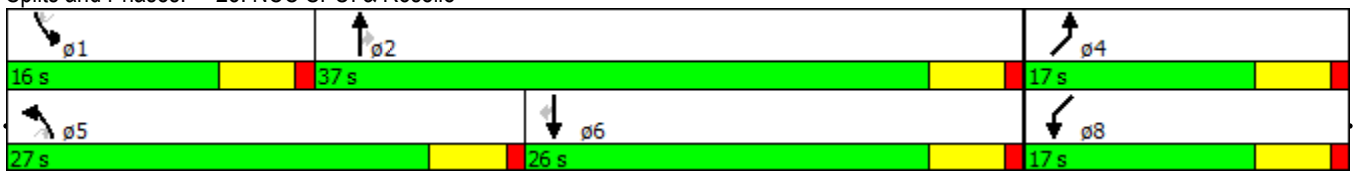
Splits and Phases: 24: Oakdale Rd & NCC SPUI

Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	260	430	360	120	480	60	20	140	270	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	400			550			500		500	
Storage Lanes	1			1			2		2	
Taper Length (ft)	60			60			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		782			1192					
Travel Time (s)		11.8			18.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		4		8	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	4	5	8	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	9.0	9.0
Total Split (s)	27.0	37.0	37.0	16.0	26.0	26.0	17.0	27.0	17.0	16.0
Total Split (%)	38.6%	52.9%	52.9%	22.9%	37.1%	37.1%	24.3%	38.6%	24.3%	22.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 54.9
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: NCC SPUI & Roselle

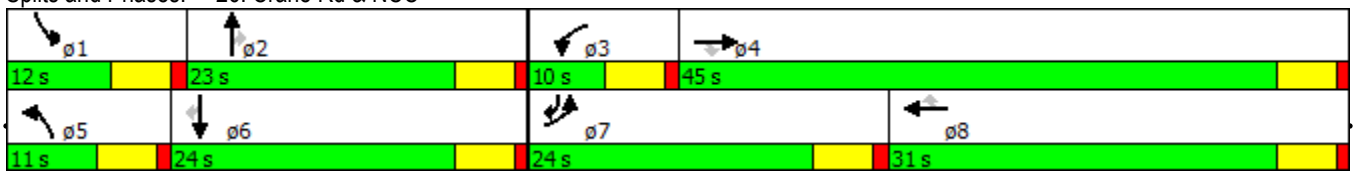


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	550	1290	20	50	820	30	40	60	170	70	50	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		630	930		630	150		300	275		275
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		1674			1432			1026			2838	
Travel Time (s)		20.8			17.8			15.5			64.5	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	9.0
Total Split (s)	24.0	45.0	45.0	10.0	31.0	31.0	11.0	23.0	23.0	12.0	24.0	24.0
Total Split (%)	26.7%	50.0%	50.0%	11.1%	34.4%	34.4%	12.2%	25.6%	25.6%	13.3%	26.7%	26.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 71.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Crane Rd & NCC

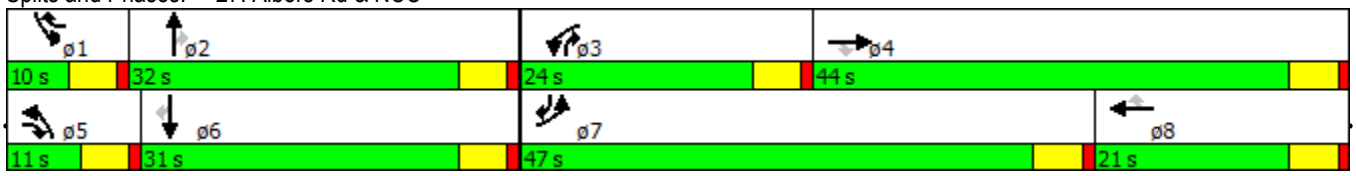


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	980	390	160	280	460	80	20	740	260	30	400	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		750	720		670	200		300	200		500
Storage Lanes	1		1	2		1	1		1	1		2
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1689			4573			2238			2284	
Travel Time (s)		20.9			56.7			27.7			28.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0
Total Split (s)	47.0	44.0	11.0	24.0	21.0	10.0	11.0	32.0	24.0	10.0	31.0	47.0
Total Split (%)	42.7%	40.0%	10.0%	21.8%	19.1%	9.1%	10.0%	29.1%	21.8%	9.1%	28.2%	42.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 104.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Albers Rd & NCC



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	280	350	50	50	480	20	50	10	50	20	10	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	120			120			120			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2921			4112			493			963	
Travel Time (s)		36.2			51.0			11.2			21.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	250	40	480	480	10	20	10	390	20	30	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			55			30	
Link Distance (ft)		2276			1267			4112			356	
Travel Time (s)		28.2			15.7			51.0			8.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	40	20	10	20	100	580	20	20	800	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1288			1150			2456	
Travel Time (s)		21.7			29.3			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	13.0	13.0		13.0	13.0		19.0	36.0	36.0	11.0	28.0	28.0
Total Split (%)	21.7%	21.7%		21.7%	21.7%		31.7%	60.0%	60.0%	18.3%	46.7%	46.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 41.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity

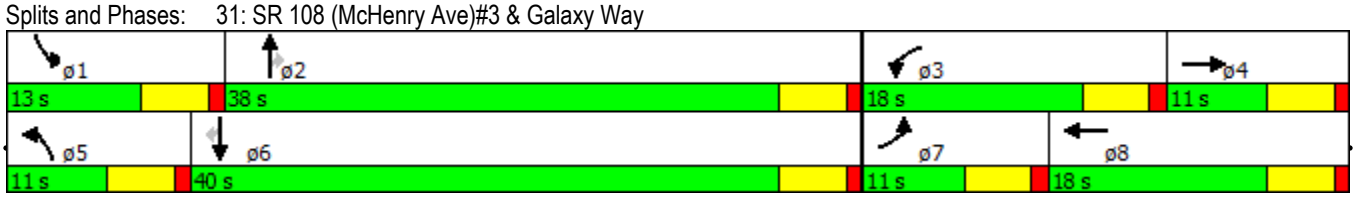
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	30	120	10	190	40	460	100	140	800	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	11.0	11.0		18.0	18.0		11.0	38.0	38.0	13.0	40.0	40.0
Total Split (%)	13.8%	13.8%		22.5%	22.5%		13.8%	47.5%	47.5%	16.3%	50.0%	50.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 58.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	10	50	100	10	50	50	220	50	50	600	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1292			2119			1060			1386	
Travel Time (s)		29.4			48.2			16.1			21.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	19.0	19.0		19.0	19.0		12.0	29.0	29.0	12.0	29.0	29.0
Total Split (%)	31.7%	31.7%		31.7%	31.7%		20.0%	48.3%	48.3%	20.0%	48.3%	48.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 40.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 32: Coffee Rd & Frontage Road North

33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	50	50	10	100	50	780	50	100	530	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		747			1155			1036			1052	
Travel Time (s)		17.0			26.3			15.7			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	17.0	17.0		17.0	17.0		11.0	28.0	28.0	15.0	32.0	32.0
Total Split (%)	28.3%	28.3%		28.3%	28.3%		18.3%	46.7%	46.7%	25.0%	53.3%	53.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 49.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Coffee Rd & Frontage Road South

34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	10	120	100	10	100	40	730	50	50	640	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			411			1462	
Travel Time (s)		15.7			12.6			6.2			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	20.0	20.0		20.0	20.0		11.0	29.0	29.0	11.0	29.0	29.0
Total Split (%)	33.3%	33.3%		33.3%	33.3%		18.3%	48.3%	48.3%	18.3%	48.3%	48.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 42.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Oakdale Rd & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	280	770	50	50	840
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	23.0	23.0	35.0		12.0	47.0
Total Split (%)	32.9%	32.9%	50.0%		17.1%	67.1%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 44.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	110	10	10	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

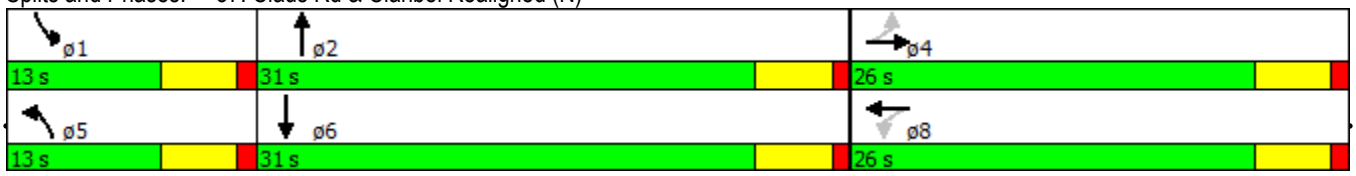
37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	10	80	120	10	20	40	280	230	40	470	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	26.0	26.0		26.0	26.0		13.0	31.0		13.0	31.0	
Total Split (%)	37.1%	37.1%		37.1%	37.1%		18.6%	44.3%		18.6%	44.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 41.4
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)



38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	100	260	710	50	130	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			1267
Travel Time (s)	12.0		43.7			15.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	9.0	21.0
Total Split (s)	23.0	23.0	36.0	36.0	11.0	47.0
Total Split (%)	32.9%	32.9%	51.4%	51.4%	15.7%	67.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 48.3
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	270	20	40	280	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	963		839			839
Travel Time (s)	21.9		12.7			12.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	pm+ov	NA		Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8				
Detector Phase	8	1	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	8.0	20.0		8.0	20.0
Total Split (s)	20.0	20.0	20.0		20.0	40.0
Total Split (%)	33.3%	33.3%	33.3%		33.3%	66.7%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	1.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	4.0	4.0		4.0	4.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	Min	Min	Min		Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 37.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Sterns & Sterns Connection

Lane Group	WBL	NWL	NWR	NER	NER2
Lane Configurations					
Volume (vph)	0	0	0	820	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12
Grade (%)	0%	0%		0%	
Storage Length (ft)	0	0	0	0	
Storage Lanes	0	0	0	4	
Taper Length (ft)	60	60			
Link Speed (mph)	55	30		55	
Link Distance (ft)	2482	1305		1260	
Travel Time (s)	30.8	29.7		15.6	
Confl. Peds. (#/hr)					
Confl. Bikes (#/hr)					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0
Parking (#/hr)					
Mid-Block Traffic (%)	0%	0%		0%	
Shared Lane Traffic (%)					
Sign Control	Stop	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	820	0	0	0	0	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2482			1462	745	
Travel Time (s)	30.8			18.1	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	2080	580	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2481	1481		1250	
Travel Time (s)		30.8	18.4		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1520	160	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2138			2475	1369	
Travel Time (s)	26.5			30.7	31.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	1000	0	0	0	2490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	3
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2690	1260		432	
Travel Time (s)		33.3	15.6		5.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1520	0	0	0	0	480
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	55	
Link Distance (ft)	2475			727	1175	
Travel Time (s)	30.7			16.5	14.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1610	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1306			2501	1150	
Travel Time (s)	29.7			31.0	14.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	1610	0	0	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		868	2501		1267	
Travel Time (s)		10.8	31.0		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	2080	0	0	0	0	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2481		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	860	0	0	0	0	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	45	
Link Distance (ft)	2052			662	1091	
Travel Time (s)	25.4			15.0	16.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1600	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	1600	0	0	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2354	2226		1058	
Travel Time (s)		29.2	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	1950	0	2000
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						1610
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1110	130	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2307			2293	1098	
Travel Time (s)	28.6			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1110	0	0	0	0	570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	0	0	0	270	60	0	90	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		100	0		100
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		164			172			860			1026	
Travel Time (s)		3.7			3.9			13.0			15.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	860	150	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			30	30	
Link Distance (ft)	1627			2052	1054	
Travel Time (s)	20.2			46.6	24.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)		10%				
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1790	420	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		2152	1292		1081	
Travel Time (s)		48.9	16.0		24.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	1790	0	0	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		30	55		30	
Link Distance (ft)		1496	2152		465	
Travel Time (s)		34.0	26.7		10.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

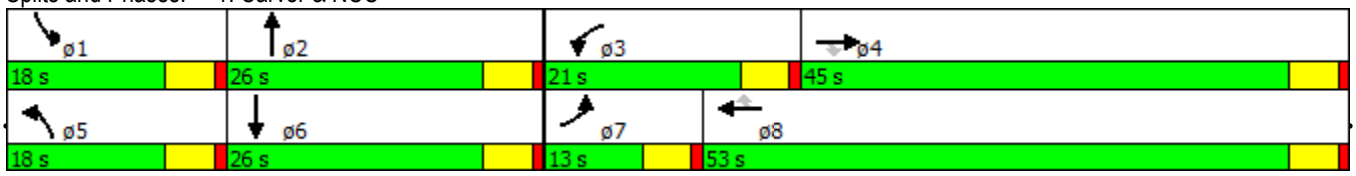
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	1670	270	200	1760	100	160	110	190	150	90	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	13.0	45.0	45.0	21.0	53.0	53.0	18.0	26.0		18.0	26.0	
Total Split (%)	11.8%	40.9%	40.9%	19.1%	48.2%	48.2%	16.4%	23.6%		16.4%	23.6%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 108.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC

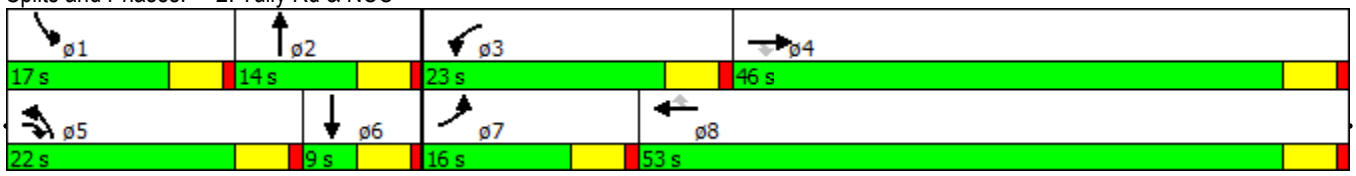


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	1620	360	600	1420	90	600	220	820	130	210	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Total Split (s)	16.0	46.0	22.0	23.0	53.0	53.0	22.0	14.0		17.0	9.0	
Total Split (%)	16.0%	46.0%	22.0%	23.0%	53.0%	53.0%	22.0%	14.0%		17.0%	9.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 96.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



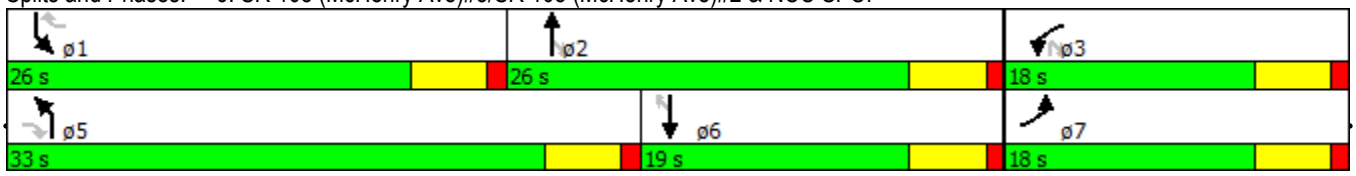
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	210	340	330	240	200	690	880	130	560	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		2		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			No			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	18.0	33.0	18.0	26.0	33.0	26.0		26.0	19.0	19.0
Total Split (%)	25.7%	47.1%	25.7%	37.1%	47.1%	37.1%		37.1%	27.1%	27.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 62.9
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2 & NCC SPUI

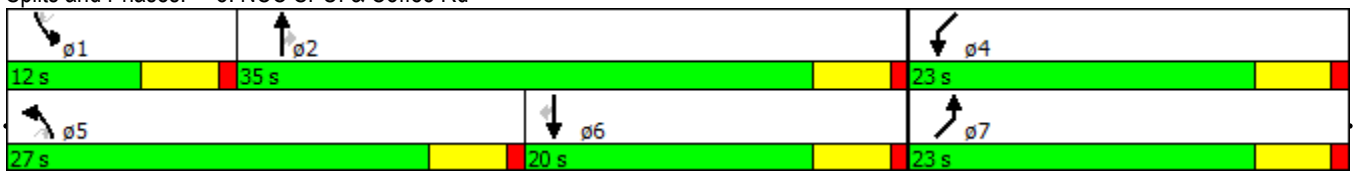


Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	280	260	470	50	220	270	700	370	370	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	600			650			500		500	
Storage Lanes	1			1			1		2	
Taper Length (ft)	120			120			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		1052			1060					
Travel Time (s)		15.9			16.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		7		4	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	7	5	4	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	9.0	9.0
Total Split (s)	27.0	35.0	35.0	12.0	20.0	20.0	23.0	27.0	23.0	12.0
Total Split (%)	38.6%	50.0%	50.0%	17.1%	28.6%	28.6%	32.9%	38.6%	32.9%	17.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 62.8
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: NCC SPUI & Coffee Rd

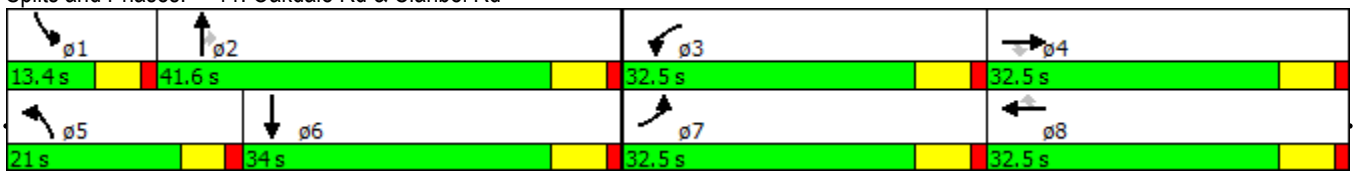


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	20	140	400	20	70	170	620	560	80	620	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	21.0	41.6	41.6	13.4	34.0	
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	17.5%	34.7%	34.7%	11.2%	28.3%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 87.6
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	180	200	80	60	20	230	490	80	40	410	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	11.0	23.0	23.0	14.0	26.0	26.0	28.0	41.0		12.0	25.0	
Total Split (%)	12.2%	25.6%	25.6%	15.6%	28.9%	28.9%	31.1%	45.6%		13.3%	27.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 74
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

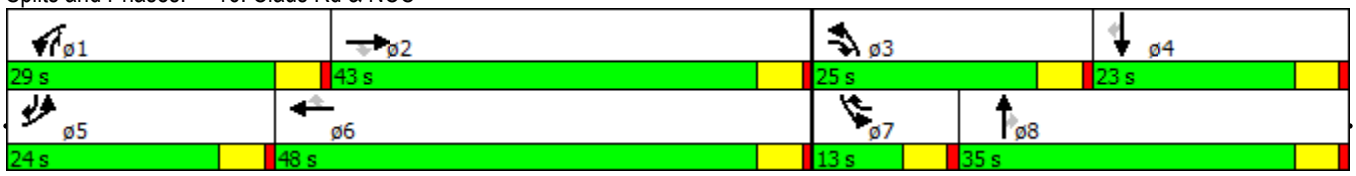
Splits and Phases: 14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	1350	430	760	1310	100	580	280	450	50	390	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		840	520		720
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1700			840			1344	
Travel Time (s)		14.4			21.1			10.4			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	24.0	43.0	25.0	29.0	48.0	13.0	25.0	35.0	29.0	13.0	23.0	24.0
Total Split (%)	20.0%	35.8%	20.8%	24.2%	40.0%	10.8%	20.8%	29.2%	24.2%	10.8%	19.2%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 116.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & NCC

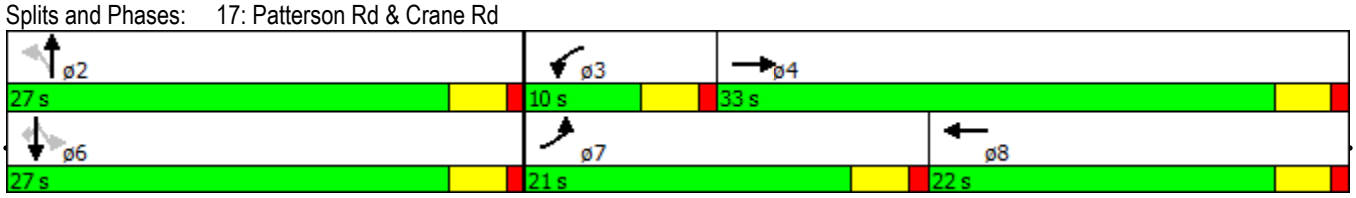


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	180	50	50	180	50	50	10	50	100	10	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	200		0	0		300
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			45	
Link Distance (ft)		2918			5382			1610			860	
Travel Time (s)		36.2			66.7			36.6			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	20.0
Total Split (s)	21.0	33.0		10.0	22.0		27.0	27.0		27.0	27.0	27.0
Total Split (%)	30.0%	47.1%		14.3%	31.4%		38.6%	38.6%		38.6%	38.6%	38.6%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		Min	Min		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 44.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 17: Patterson Rd & Crane Rd



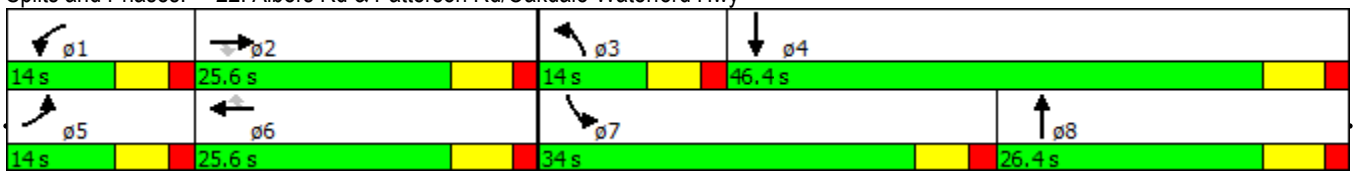
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	230	30	20	40	230	40	560	30	390	640	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2285			1544			2238	
Travel Time (s)		70.0			28.3			19.1			27.7	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	14.5	14.5	14.0	14.5	14.5	14.0	14.5		14.0	14.5	
Total Split (s)	14.0	25.6	25.6	14.0	25.6	25.6	14.0	26.4		34.0	46.4	
Total Split (%)	14.0%	25.6%	25.6%	14.0%	25.6%	25.6%	14.0%	26.4%		34.0%	46.4%	
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5		4.0	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5	-2.5	-2.0	-2.5	-2.5	-2.0	-2.5		-2.0	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 86.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

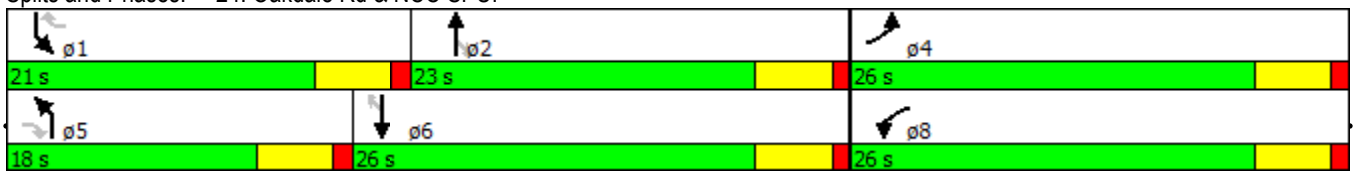


Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	670	160	300	200	20	480	400	140	600	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	26.0	18.0	26.0	21.0	18.0	23.0	23.0	21.0	26.0	26.0
Total Split (%)	37.1%	25.7%	37.1%	30.0%	25.7%	32.9%	32.9%	30.0%	37.1%	37.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 60
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 24: Oakdale Rd & NCC SPUI

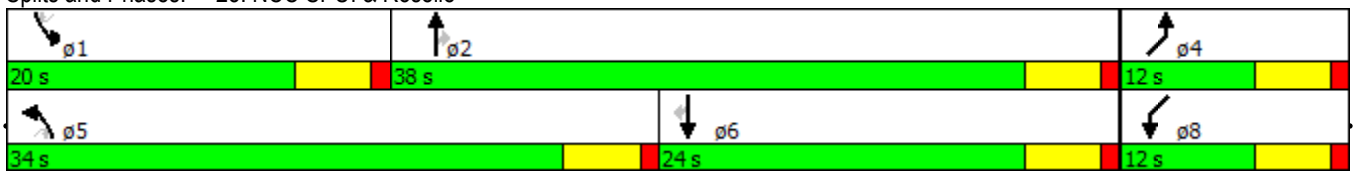


Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	170	580	270	100	540	50	70	360	130	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	400			550			500		500	
Storage Lanes	1			1			2		2	
Taper Length (ft)	60			60			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		782			1192					
Travel Time (s)		11.8			18.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		4		8	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	4	5	8	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	9.0	9.0
Total Split (s)	34.0	38.0	38.0	20.0	24.0	24.0	12.0	34.0	12.0	20.0
Total Split (%)	48.6%	54.3%	54.3%	28.6%	34.3%	34.3%	17.1%	48.6%	17.1%	28.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 54.3
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: NCC SPUI & Roselle

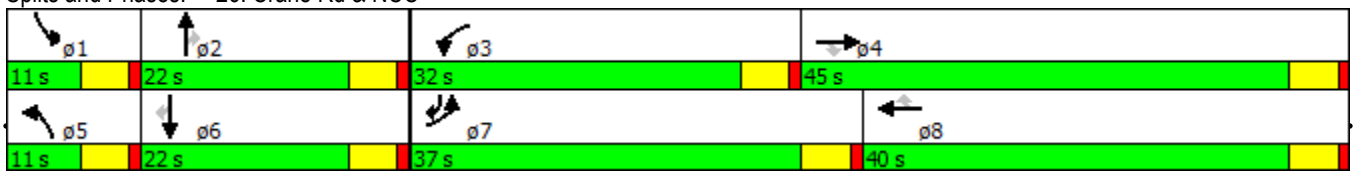


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	800	1000	50	240	1320	80	20	50	240	60	90	820
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		630	930		630	150		300	275		275
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		1673			1429			1026			2838	
Travel Time (s)		20.7			17.7			15.5			64.5	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	9.0
Total Split (s)	37.0	45.0	45.0	32.0	40.0	40.0	11.0	22.0	22.0	11.0	22.0	37.0
Total Split (%)	33.6%	40.9%	40.9%	29.1%	36.4%	36.4%	10.0%	20.0%	20.0%	10.0%	20.0%	33.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 98
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Crane Rd & NCC

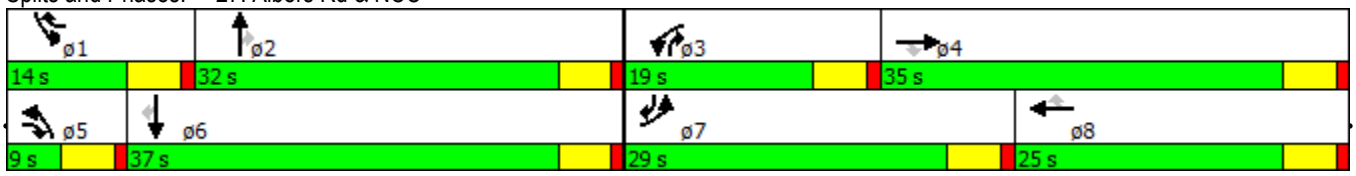


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	630	630	40	260	530	40	20	530	320	100	790	1090
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		750	720		670	200		300	200		500
Storage Lanes	1		1	2		1	1		1	1		2
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1689			4589			2238			2278	
Travel Time (s)		20.9			56.9			27.7			28.2	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0
Total Split (s)	29.0	35.0	9.0	19.0	25.0	14.0	9.0	32.0	19.0	14.0	37.0	29.0
Total Split (%)	29.0%	35.0%	9.0%	19.0%	25.0%	14.0%	9.0%	32.0%	19.0%	14.0%	37.0%	29.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 94.2
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Albers Rd & NCC



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	570	50	50	390	20	50	10	50	20	10	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	120			120			120			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2914			4095			369			963	
Travel Time (s)		36.1			50.8			8.4			21.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	410	20	420	370	20	30	40	570	20	20	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	700		550	820		390	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			55			30	
Link Distance (ft)		2298			1267			4095			356	
Travel Time (s)		28.5			15.7			50.8			8.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	10	130	50	10	50	100	990	50	50	740	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1274			1150			2456	
Travel Time (s)		21.7			29.0			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	16.0	16.0		16.0	16.0		16.0	31.0	31.0	13.0	28.0	28.0
Total Split (%)	26.7%	26.7%		26.7%	26.7%		26.7%	51.7%	51.7%	21.7%	46.7%	46.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 43.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity

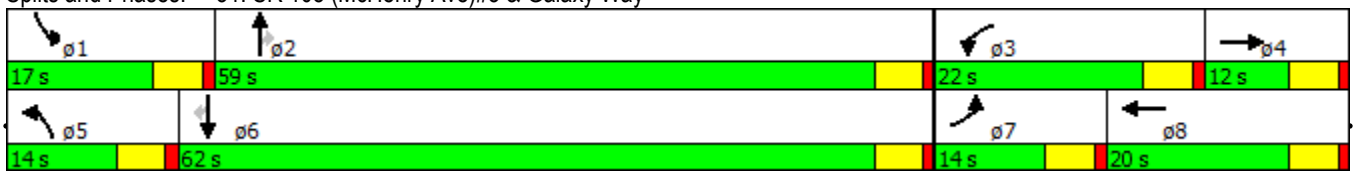
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	90	190	10	290	50	1380	200	290	870	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	14.0	12.0		22.0	20.0		14.0	59.0	59.0	17.0	62.0	62.0
Total Split (%)	12.7%	10.9%		20.0%	18.2%		12.7%	53.6%	53.6%	15.5%	56.4%	56.4%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 106
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	10	50	100	10	50	50	870	100	50	390	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1303			2125			1060			1369	
Travel Time (s)		29.6			48.3			16.1			20.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	16.0	16.0		16.0	16.0		11.0	33.0	33.0	11.0	33.0	33.0
Total Split (%)	26.7%	26.7%		26.7%	26.7%		18.3%	55.0%	55.0%	18.3%	55.0%	55.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 46.6
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 32: Coffee Rd & Frontage Road North

33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	50	50	10	100	50	810	50	100	760	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		822			1164			1312			1052	
Travel Time (s)		18.7			26.5			19.9			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	17.0	17.0		17.0	17.0		11.0	29.0	29.0	14.0	32.0	32.0
Total Split (%)	28.3%	28.3%		28.3%	28.3%		18.3%	48.3%	48.3%	23.3%	53.3%	53.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 49.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Coffee Rd & Frontage Road South

34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	10	70	60	10	60	110	770	100	100	850	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			411			1462	
Travel Time (s)		15.7			12.6			6.2			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	13.0	13.0		13.0	13.0		15.0	33.0	33.0	14.0	32.0	32.0
Total Split (%)	21.7%	21.7%		21.7%	21.7%		25.0%	55.0%	55.0%	23.3%	53.3%	53.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 49.4
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Oakdale Rd & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	100	150	870	100	110	920
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	20.0	20.0	43.0		17.0	60.0
Total Split (%)	25.0%	25.0%	53.8%		21.3%	75.0%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 60.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	210	10	10	150	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

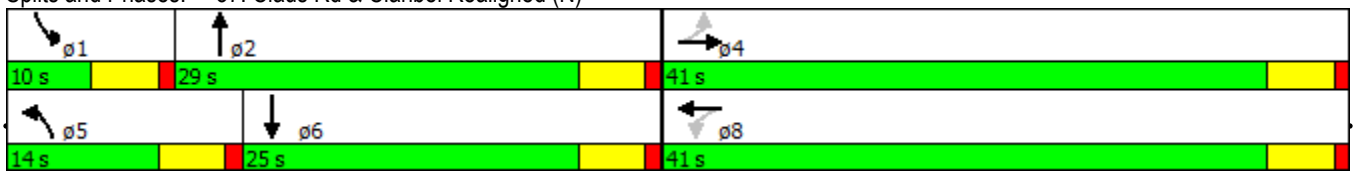
37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	10	90	310	10	50	90	480	160	50	400	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	41.0	41.0		41.0	41.0		14.0	29.0		10.0	25.0	
Total Split (%)	51.3%	51.3%		51.3%	51.3%		17.5%	36.3%		12.5%	31.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 62.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)



38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	210	1100	250	350	1230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			1267
Travel Time (s)	12.0		43.7			15.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	9.0	21.0
Total Split (s)	21.0	21.0	41.0	41.0	18.0	59.0
Total Split (%)	26.3%	26.3%	51.3%	51.3%	22.5%	73.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 71.6
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

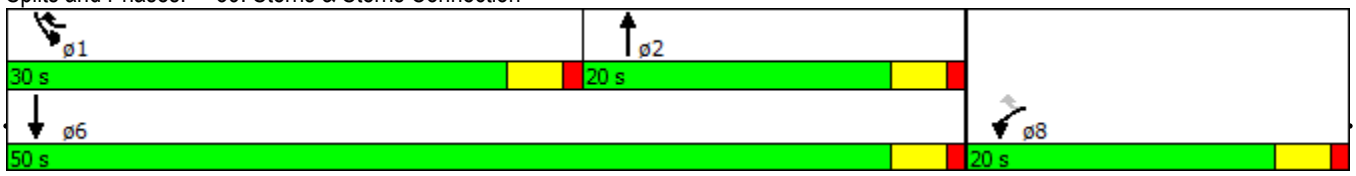
Splits and Phases: 38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	60	400	30	50	370	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	963		839			839
Travel Time (s)	21.9		12.7			12.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	pm+ov	NA		Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8				
Detector Phase	8	1	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	8.0	20.0		8.0	20.0
Total Split (s)	20.0	30.0	20.0		30.0	50.0
Total Split (%)	28.6%	42.9%	28.6%		42.9%	71.4%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	1.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	4.0	4.0		4.0	4.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	Min	Min	Min		Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 42.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Sterns & Sterns Connection



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	1680	0	0	0	0	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2484		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1690	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	1690	0	0	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2292	2226		1058	
Travel Time (s)		28.4	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	2250	0	2130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						1610
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1650	830	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2278			2293	1098	
Travel Time (s)	28.2			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1650	0	0	0	0	540
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	50	0	0	50	0	260	0	0	380	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		100	0		100
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		164			172			860			1026	
Travel Time (s)		3.7			3.9			13.0			15.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

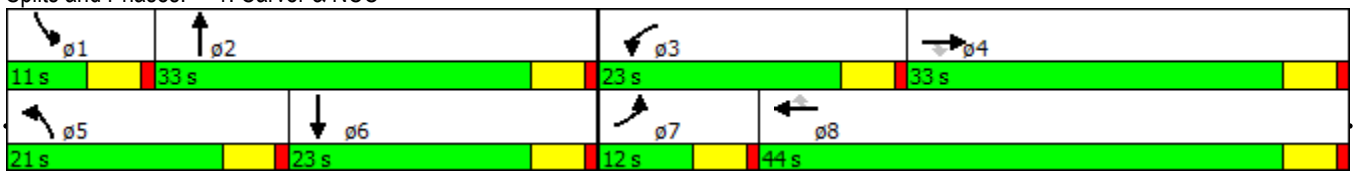
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	1190	140	240	1700	70	220	80	40	30	140	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	12.0	33.0	33.0	23.0	44.0	44.0	21.0	33.0		11.0	23.0	
Total Split (%)	12.0%	33.0%	33.0%	23.0%	44.0%	44.0%	21.0%	33.0%		11.0%	23.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 96.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC

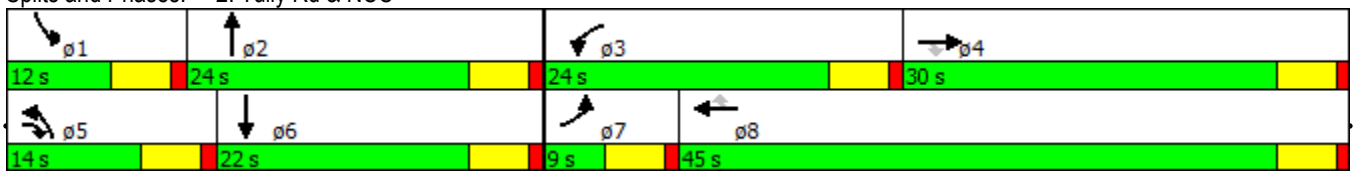


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	790	420	660	1780	50	170	90	170	40	110	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	9.0	30.0	14.0	24.0	45.0	45.0	14.0	24.0		12.0	22.0	
Total Split (%)	10.0%	33.3%	15.6%	26.7%	50.0%	50.0%	15.6%	26.7%		13.3%	24.4%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 75.4
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



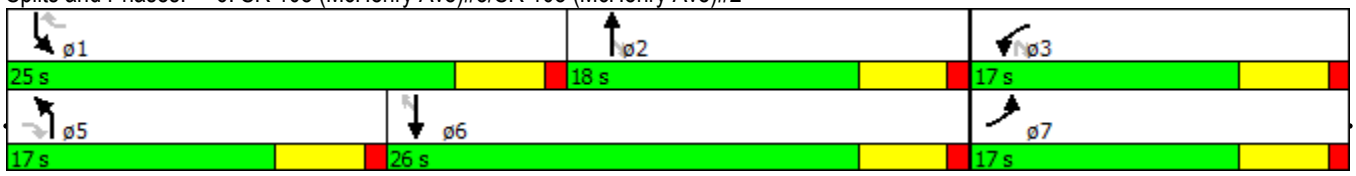
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	40	140	330	250	130	410	140	50	530	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		2		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			No			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	17.0	17.0	17.0	25.0	17.0	18.0		25.0	26.0	26.0
Total Split (%)	28.3%	28.3%	28.3%	41.7%	28.3%	30.0%		41.7%	43.3%	43.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 50.2
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

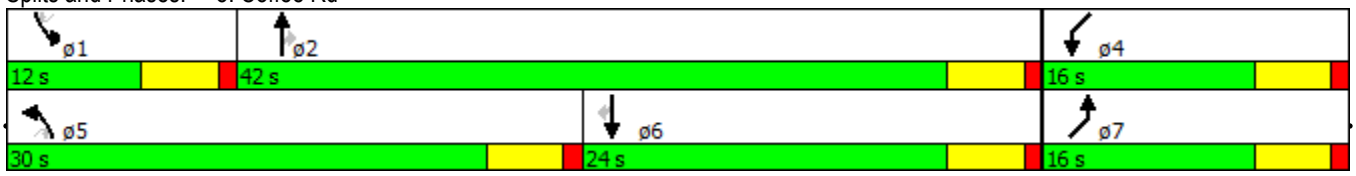


Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	440	190	350	30	290	430	90	70	370	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	600			650			500		500	
Storage Lanes	1			1			1		2	
Taper Length (ft)	120			120			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		1052			1060					
Travel Time (s)		15.9			16.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		7		4	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	7	5	4	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	9.0	9.0
Total Split (s)	30.0	42.0	42.0	12.0	24.0	24.0	16.0	30.0	16.0	12.0
Total Split (%)	42.9%	60.0%	60.0%	17.1%	34.3%	34.3%	22.9%	42.9%	22.9%	17.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 59.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd

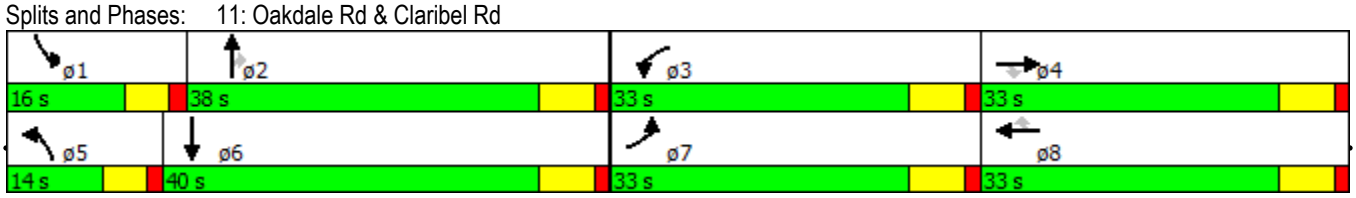


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	40	90	450	20	70	50	280	240	70	530	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	14.0	38.0	38.0	16.0	40.0	
Total Split (%)	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	11.7%	31.7%	31.7%	13.3%	33.3%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 74.5
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	50	210	30	80	50	140	360	20	20	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	12.0	22.0	22.0	11.0	21.0	21.0	21.0	38.0		9.0	26.0	
Total Split (%)	15.0%	27.5%	27.5%	13.8%	26.3%	26.3%	26.3%	47.5%		11.3%	32.5%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: CBD
Cycle Length: 80
Actuated Cycle Length: 55.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	1340	330	430	1170	60	350	200	420	60	230	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		840	520		720
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1700			840			1344	
Travel Time (s)		14.4			21.1			10.4			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	31.0	47.0	17.0	31.0	47.0	11.0	17.0	21.0	31.0	11.0	15.0	31.0
Total Split (%)	28.2%	42.7%	15.5%	28.2%	42.7%	10.0%	15.5%	19.1%	28.2%	10.0%	13.6%	28.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 94.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

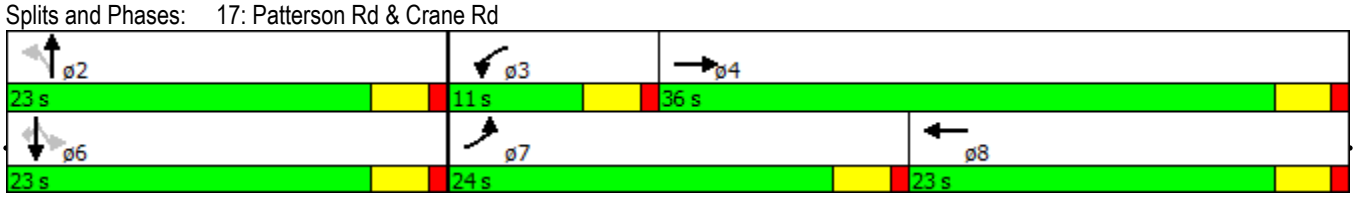
Splits and Phases: 16: Claus Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	80	50	50	170	80	50	10	50	60	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	200		0	0		300
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			45	
Link Distance (ft)		2918			5382			1629			864	
Travel Time (s)		36.2			66.7			37.0			13.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	20.0
Total Split (s)	24.0	36.0		11.0	23.0		23.0	23.0		23.0	23.0	23.0
Total Split (%)	34.3%	51.4%		15.7%	32.9%		32.9%	32.9%		32.9%	32.9%	32.9%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		Min	Min		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 43.4
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 17: Patterson Rd & Crane Rd



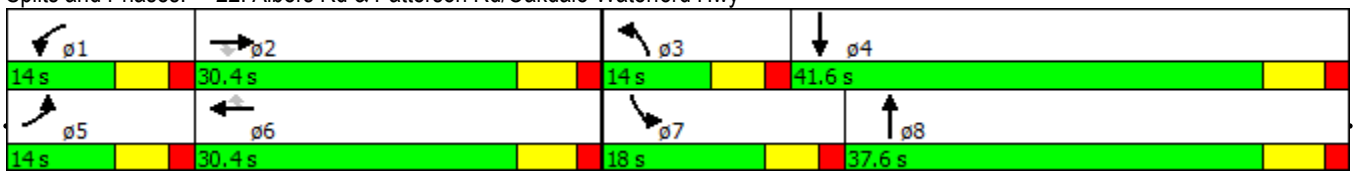
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	50	40	30	120	270	50	700	20	110	650	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2285			1544			2239	
Travel Time (s)		70.0			28.3			19.1			27.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	29.5	29.5	14.0	29.5	29.5	14.0	29.5		14.0	29.5	
Total Split (s)	14.0	30.4	30.4	14.0	30.4	30.4	14.0	37.6		18.0	41.6	
Total Split (%)	14.0%	30.4%	30.4%	14.0%	30.4%	30.4%	14.0%	37.6%		18.0%	41.6%	
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5		4.0	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5	-2.5	-2.0	-2.5	-2.5	-2.0	-2.5		-2.0	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 70.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	90	40	250	70	80	410	460	100	440	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	16.0	14.0	16.0	15.0	14.0	39.0	39.0	15.0	40.0	40.0
Total Split (%)	22.9%	20.0%	22.9%	21.4%	20.0%	55.7%	55.7%	21.4%	57.1%	57.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 45.9
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

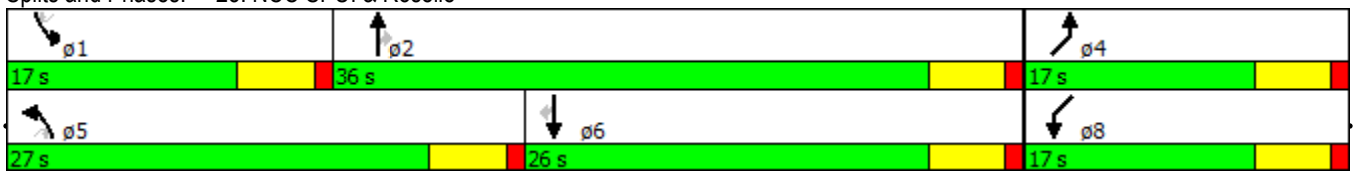
Splits and Phases: 24: Oakdale Rd & NCC SPUI

Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	260	430	360	120	480	60	20	140	260	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	400			550			500		500	
Storage Lanes	1			1			2		2	
Taper Length (ft)	60			60			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		782			1192					
Travel Time (s)		11.8			18.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		4		8	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	4	5	8	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	9.0	9.0
Total Split (s)	27.0	36.0	36.0	17.0	26.0	26.0	17.0	27.0	17.0	17.0
Total Split (%)	38.6%	51.4%	51.4%	24.3%	37.1%	37.1%	24.3%	38.6%	24.3%	24.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 54.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: NCC SPUI & Roselle

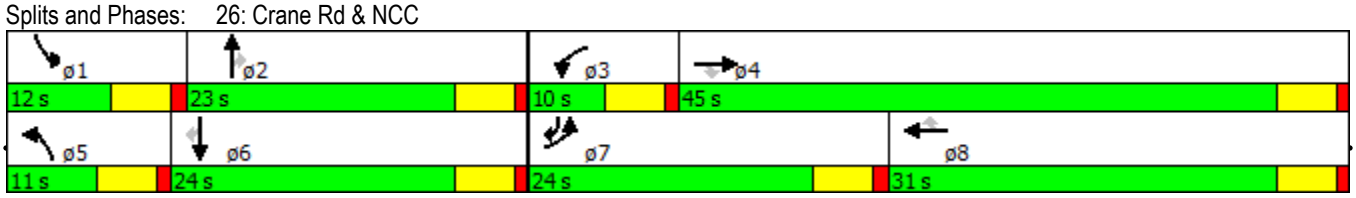


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	570	1230	20	50	720	30	40	60	150	60	50	900
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		630	930		630	150		300	275		275
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		1674			1432			1026			2838	
Travel Time (s)		20.8			17.8			15.5			64.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	9.0
Total Split (s)	24.0	45.0	45.0	10.0	31.0	31.0	11.0	23.0	23.0	12.0	24.0	24.0
Total Split (%)	26.7%	50.0%	50.0%	11.1%	34.4%	34.4%	12.2%	25.6%	25.6%	13.3%	26.7%	26.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 66.7
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Crane Rd & NCC

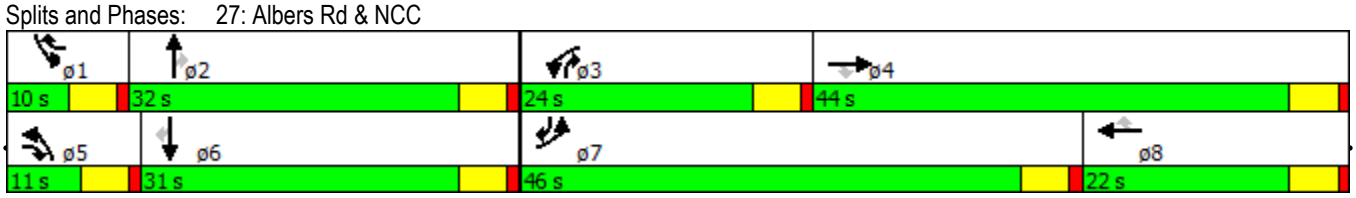


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	980	300	160	240	310	40	20	760	240	20	440	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		750	720		670	200		300	200		500
Storage Lanes	1		1	2		1	1		1	1		2
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1689			4701			2239			2265	
Travel Time (s)		20.9			58.3			27.8			28.1	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0
Total Split (s)	46.0	44.0	11.0	24.0	22.0	10.0	11.0	32.0	24.0	10.0	31.0	46.0
Total Split (%)	41.8%	40.0%	10.0%	21.8%	20.0%	9.1%	10.0%	29.1%	21.8%	9.1%	28.2%	41.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 103.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Albers Rd & NCC

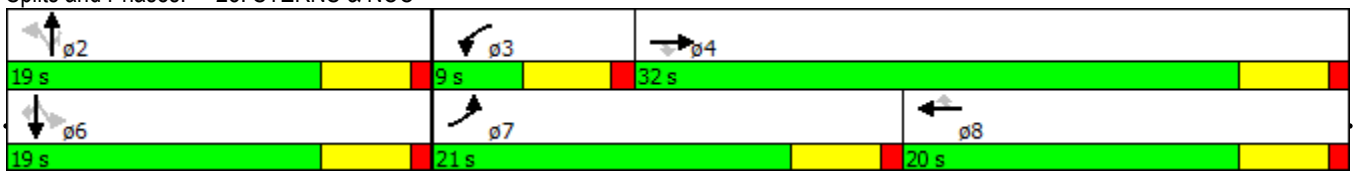


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	360	20	20	400	20	30	20	20	20	20	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	870		570	570		570	0		100	0		300
Storage Lanes	1		1	1		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2064			2854			360			726	
Travel Time (s)		25.6			35.4			8.2			16.5	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	21.0	32.0	32.0	9.0	20.0	20.0	19.0	19.0	19.0	19.0	19.0	19.0
Total Split (%)	35.0%	53.3%	53.3%	15.0%	33.3%	33.3%	31.7%	31.7%	31.7%	31.7%	31.7%	31.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	None	None	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 42.8
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 28: STERNS & NCC



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	180	80	360	200	40	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	820		0	0
Storage Lanes		0	0		1	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2123			1212	1719	
Travel Time (s)	26.3			15.0	21.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Yield			Yield	Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

30: SR 108 (McHenry Ave)#2 & Charity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	40	20	10	20	100	580	20	20	820	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1303			1150			2456	
Travel Time (s)		21.7			29.6			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	13.0	13.0		13.0	13.0		18.0	36.0	36.0	11.0	29.0	29.0
Total Split (%)	21.7%	21.7%		21.7%	21.7%		30.0%	60.0%	60.0%	18.3%	48.3%	48.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 42.6
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity

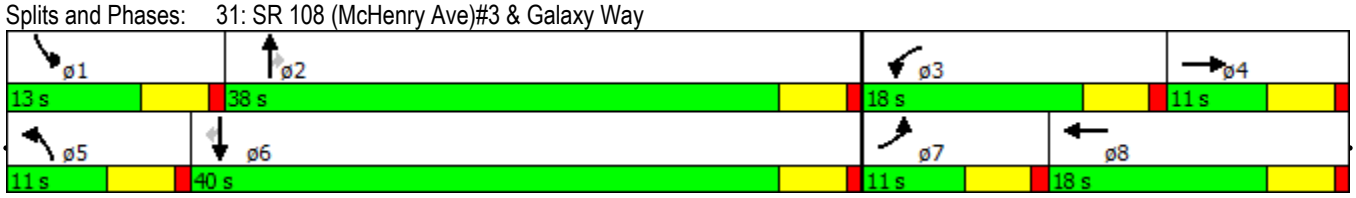
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	30	120	10	190	40	460	100	140	800	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	11.0	11.0		18.0	18.0		11.0	38.0	38.0	13.0	40.0	40.0
Total Split (%)	13.8%	13.8%		22.5%	22.5%		13.8%	47.5%	47.5%	16.3%	50.0%	50.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 58.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	10	50	100	10	50	50	230	50	50	600	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1322			2052			1060			1405	
Travel Time (s)		30.0			46.6			16.1			21.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	19.0	19.0		19.0	19.0		12.0	29.0	29.0	12.0	29.0	29.0
Total Split (%)	31.7%	31.7%		31.7%	31.7%		20.0%	48.3%	48.3%	20.0%	48.3%	48.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 40.1
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 32: Coffee Rd & Frontage Road North

33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	50	50	10	100	50	780	50	100	530	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		796			1164			1312			1052	
Travel Time (s)		18.1			26.5			19.9			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	17.0	17.0		17.0	17.0		11.0	28.0	28.0	15.0	32.0	32.0
Total Split (%)	28.3%	28.3%		28.3%	28.3%		18.3%	46.7%	46.7%	25.0%	53.3%	53.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 49.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Coffee Rd & Frontage Road South

34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	10	120	100	10	100	40	730	50	50	640	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			411			1462	
Travel Time (s)		15.7			12.6			6.2			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	18.0	18.0		18.0	18.0		11.0	31.0	31.0	11.0	31.0	31.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		18.3%	51.7%	51.7%	18.3%	51.7%	51.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 42.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Oakdale Rd & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	280	770	50	50	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	23.0	23.0	35.0		12.0	47.0
Total Split (%)	32.9%	32.9%	50.0%		17.1%	67.1%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 44.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road

36: Davis & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	110	10	10	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

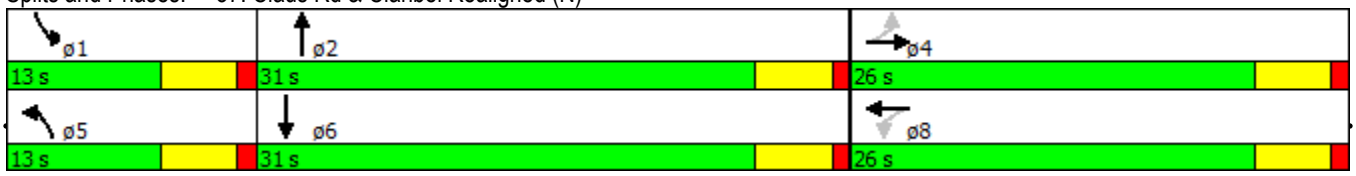
37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	10	80	120	10	20	40	300	230	40	480	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	26.0	26.0		26.0	26.0		13.0	31.0		13.0	31.0	
Total Split (%)	37.1%	37.1%		37.1%	37.1%		18.6%	44.3%		18.6%	44.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 41.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)



38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	100	260	710	50	130	860
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			1267
Travel Time (s)	12.0		43.7			15.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	9.0	21.0
Total Split (s)	23.0	23.0	34.0	34.0	13.0	47.0
Total Split (%)	32.9%	32.9%	48.6%	48.6%	18.6%	67.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 50.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 38: New Claribel Road (S) & Claus Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	20	20	10	20	20	180	20	20	160	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			1302			726			973	
Travel Time (s)		16.1			29.6			16.5			22.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	360	20	20	400	20	20	10	20	20	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	720		720	720		720	300		0	300		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3172			3492			725			850	
Travel Time (s)		39.3			43.3			16.5			19.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	0	0	820	180	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	0		1	0	
Taper Length (ft)	60				60	
Link Speed (mph)	30		55			55
Link Distance (ft)	1305		1260			2486
Travel Time (s)	29.7		15.6			30.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	820	0	0	0	0	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2486			1462	745	
Travel Time (s)	30.8			18.1	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	2060	580	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2484	1481		1250	
Travel Time (s)		30.8	18.4		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	2060	0	0	0	0	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2484		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1580	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	1580	0	0	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2286	2226		1058	
Travel Time (s)		28.3	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	1910	0	1980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						1610
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1100	130	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2272			2293	1098	
Travel Time (s)	28.2			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1100	0	0	0	0	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	0	0	0	250	60	0	90	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		100	0		100
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		164			172			864			1026	
Travel Time (s)		3.7			3.9			13.1			15.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

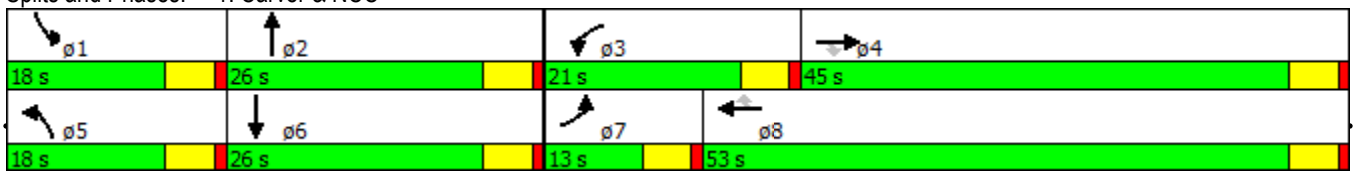
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	1670	270	200	1760	100	160	110	190	150	90	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	13.0	45.0	45.0	21.0	53.0	53.0	18.0	26.0		18.0	26.0	
Total Split (%)	11.8%	40.9%	40.9%	19.1%	48.2%	48.2%	16.4%	23.6%		16.4%	23.6%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 108.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC

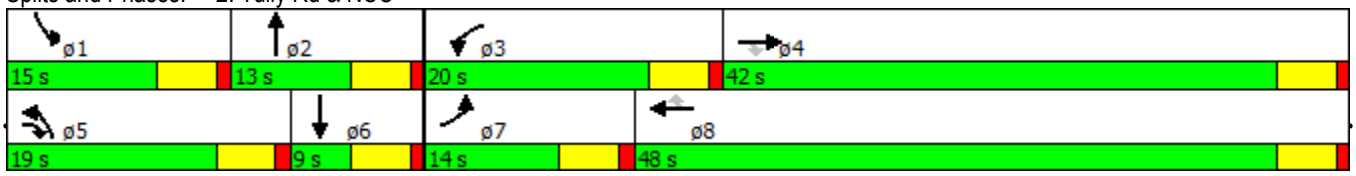


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	1620	360	600	1420	90	600	220	820	130	210	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Total Split (s)	14.0	42.0	19.0	20.0	48.0	48.0	19.0	13.0		15.0	9.0	
Total Split (%)	15.6%	46.7%	21.1%	22.2%	53.3%	53.3%	21.1%	14.4%		16.7%	10.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 88.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



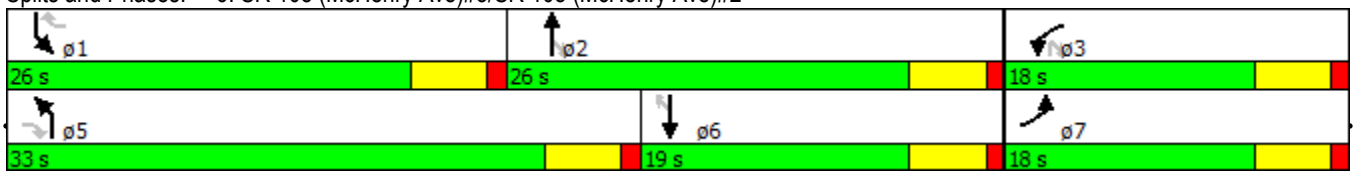
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	220	340	330	240	200	690	880	130	560	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		2		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			No			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	18.0	33.0	18.0	26.0	33.0	26.0		26.0	19.0	19.0
Total Split (%)	25.7%	47.1%	25.7%	37.1%	47.1%	37.1%		37.1%	27.1%	27.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 62.9
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

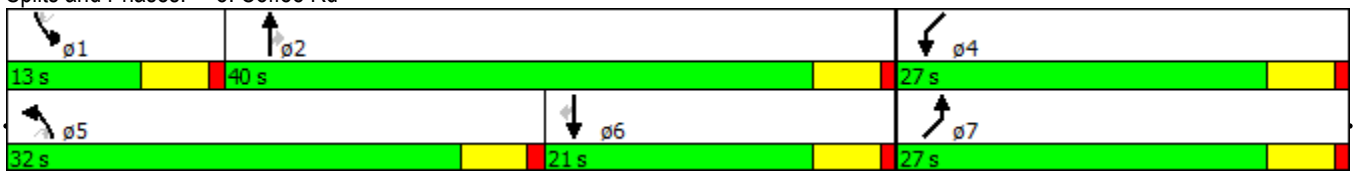


Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	280	260	470	50	220	270	710	370	370	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	600			650			500		500	
Storage Lanes	1			1			1		2	
Taper Length (ft)	120			120			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		1052			1060					
Travel Time (s)		15.9			16.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		7		4	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	7	5	4	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	9.0	9.0
Total Split (s)	32.0	40.0	40.0	13.0	21.0	21.0	27.0	32.0	27.0	13.0
Total Split (%)	40.0%	50.0%	50.0%	16.3%	26.3%	26.3%	33.8%	40.0%	33.8%	16.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 68.4
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd

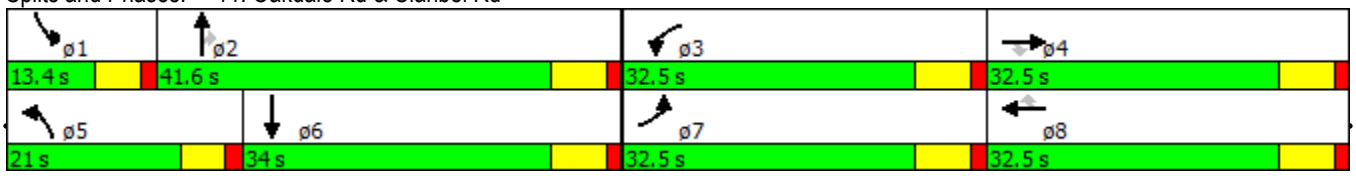


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	20	140	400	20	70	170	560	560	80	620	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	21.0	41.6	41.6	13.4	34.0	
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	17.5%	34.7%	34.7%	11.2%	28.3%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 87.6
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	180	200	80	60	20	230	490	80	40	410	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	11.0	23.0	23.0	14.0	26.0	26.0	28.0	41.0		12.0	25.0	
Total Split (%)	12.2%	25.6%	25.6%	15.6%	28.9%	28.9%	31.1%	45.6%		13.3%	27.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 73.8
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

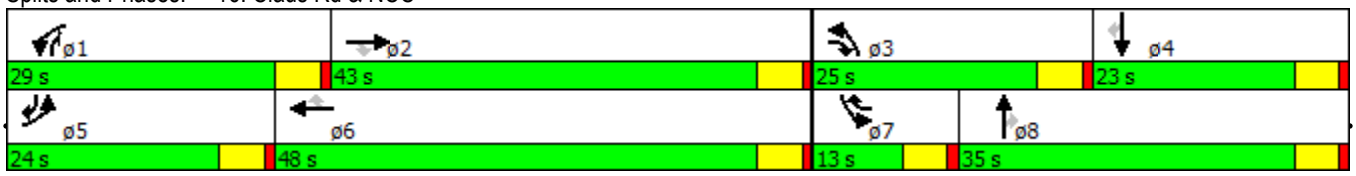
Splits and Phases: 14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	1290	430	740	1290	80	580	300	430	50	410	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		840	520		720
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1700			840			1344	
Travel Time (s)		14.4			21.1			10.4			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	24.0	43.0	25.0	29.0	48.0	13.0	25.0	35.0	29.0	13.0	23.0	24.0
Total Split (%)	20.0%	35.8%	20.8%	24.2%	40.0%	10.8%	20.8%	29.2%	24.2%	10.8%	19.2%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 116.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & NCC

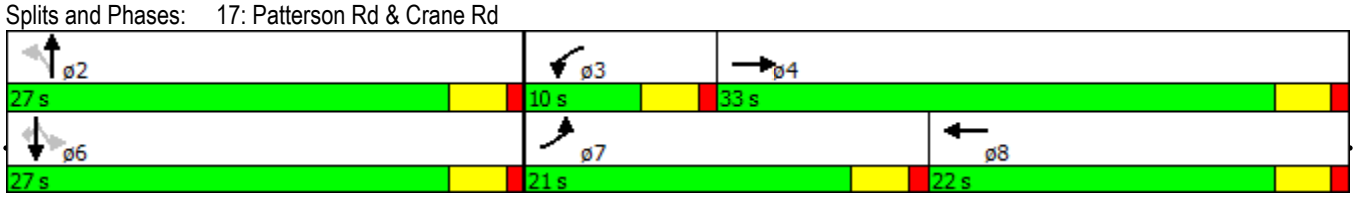


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	180	50	50	180	50	50	10	50	100	10	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	200		0	0		300
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			45	
Link Distance (ft)		2918			5382			1523			860	
Travel Time (s)		36.2			66.7			34.6			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	20.0
Total Split (s)	21.0	33.0		10.0	22.0		27.0	27.0		27.0	27.0	27.0
Total Split (%)	30.0%	47.1%		14.3%	31.4%		38.6%	38.6%		38.6%	38.6%	38.6%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		Min	Min		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 44.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 17: Patterson Rd & Crane Rd



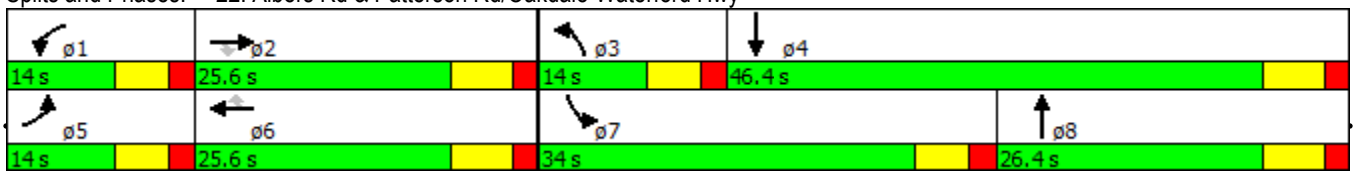
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	230	30	20	40	230	40	560	30	390	640	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2285			1544			2238	
Travel Time (s)		70.0			28.3			19.1			27.7	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	14.5	14.5	14.0	14.5	14.5	14.0	14.5		14.0	14.5	
Total Split (s)	14.0	25.6	25.6	14.0	25.6	25.6	14.0	26.4		34.0	46.4	
Total Split (%)	14.0%	25.6%	25.6%	14.0%	25.6%	25.6%	14.0%	26.4%		34.0%	46.4%	
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5		4.0	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5	-2.5	-2.0	-2.5	-2.5	-2.0	-2.5		-2.0	-2.5	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 86.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

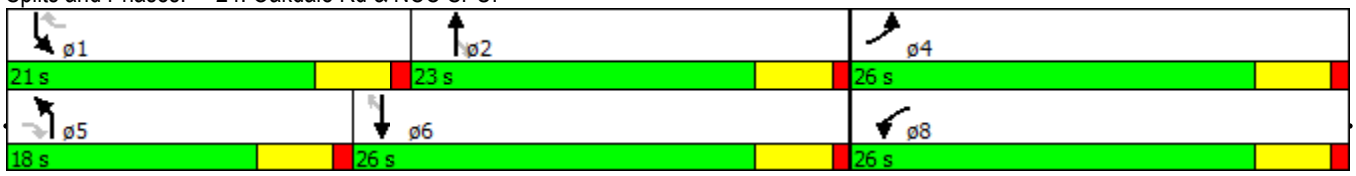


Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	690	160	300	200	20	400	400	140	600	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	26.0	18.0	26.0	21.0	18.0	23.0	23.0	21.0	26.0	26.0
Total Split (%)	37.1%	25.7%	37.1%	30.0%	25.7%	32.9%	32.9%	30.0%	37.1%	37.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 60.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 24: Oakdale Rd & NCC SPUI

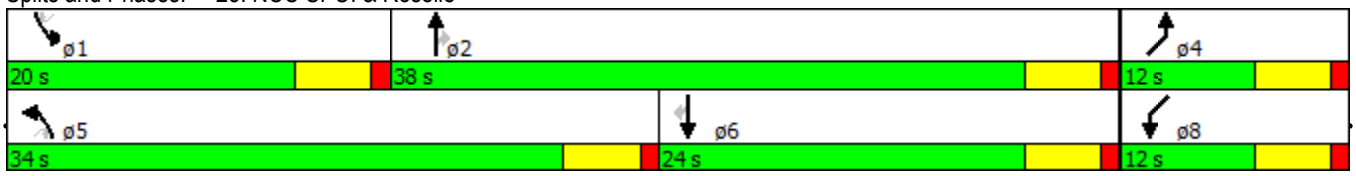


Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	170	580	270	100	540	50	70	360	130	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	400			550			500		500	
Storage Lanes	1			1			2		2	
Taper Length (ft)	60			60			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		782			1192					
Travel Time (s)		11.8			18.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		4		8	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	4	5	8	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	9.0	9.0
Total Split (s)	34.0	38.0	38.0	20.0	24.0	24.0	12.0	34.0	12.0	20.0
Total Split (%)	48.6%	54.3%	54.3%	28.6%	34.3%	34.3%	17.1%	48.6%	17.1%	28.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 54.3
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: NCC SPUI & Roselle



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	820	900	50	240	1270	70	20	50	240	60	90	820
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		630	930		630	150		300	275		275
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			30	
Link Distance (ft)		1673			1429			1026			2838	
Travel Time (s)		20.7			17.7			15.5			64.5	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	9.0
Total Split (s)	37.0	45.0	45.0	32.0	40.0	40.0	11.0	22.0	22.0	11.0	22.0	37.0
Total Split (%)	33.6%	40.9%	40.9%	29.1%	36.4%	36.4%	10.0%	20.0%	20.0%	10.0%	20.0%	33.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 97.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

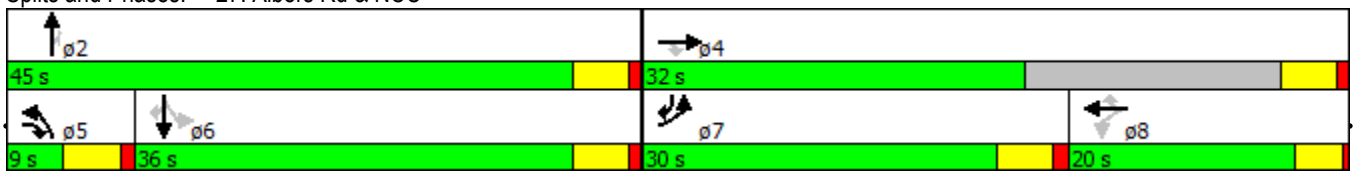
Splits and Phases: 26: Crane Rd & NCC

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	700	460	40	200	400	20	20	570	280	50	850	1160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	750		750	720		670	200		300	200		500
Storage Lanes	1		1	2		1	1		1	1		2
Taper Length (ft)	120			60			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1689			4647			2238			2284	
Travel Time (s)		20.9			57.6			27.7			28.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Perm	NA	Perm	Prot	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4	5		8		5	2			6	7
Permitted Phases			4	8		8			2	6		6
Detector Phase	7	4	5	8	8	8	5	2	2	6	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	20.0	20.0	20.0	9.0	21.0	21.0	21.0	21.0	9.0
Total Split (s)	30.0	32.0	9.0	20.0	20.0	20.0	9.0	45.0	45.0	36.0	36.0	30.0
Total Split (%)	31.6%	33.7%	9.5%	21.1%	21.1%	21.1%	9.5%	47.4%	47.4%	37.9%	37.9%	31.6%
Yellow Time (s)	4.0	4.0	4.0	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	0.5	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead	Lag	Lag	Lag	Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes
Recall Mode	None	Min	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 95
Actuated Cycle Length: 86.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Albers Rd & NCC

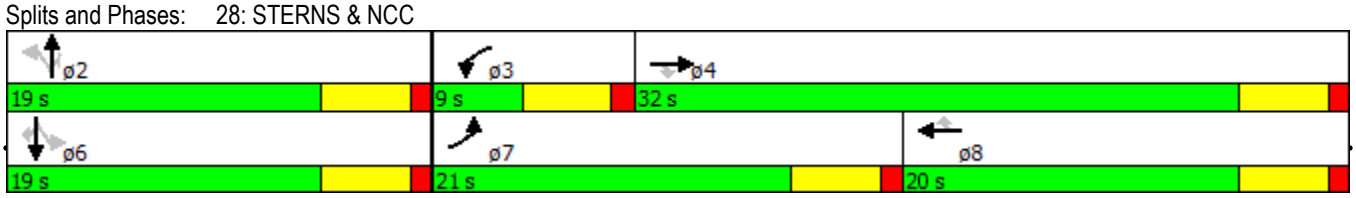


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	490	40	20	360	20	30	20	20	20	20	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	870		570	570		570	0		100	0		300
Storage Lanes	1		1	1		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2064			2854			330			726	
Travel Time (s)		25.6			35.4			7.5			16.5	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	21.0	32.0	32.0	9.0	20.0	20.0	19.0	19.0	19.0	19.0	19.0	19.0
Total Split (%)	35.0%	53.3%	53.3%	15.0%	33.3%	33.3%	31.7%	31.7%	31.7%	31.7%	31.7%	31.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	None	None	None	None	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 46.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 28: STERNS & NCC



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	220	40	360	220	90	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	820		0	0
Storage Lanes		0	0		1	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2123			1264	1670	
Travel Time (s)	26.3			15.7	20.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Yield			Yield	Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	10	130	50	10	50	100	1000	50	50	760	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1294			1150			2456	
Travel Time (s)		21.7			29.4			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	16.0	16.0		16.0	16.0		16.0	31.0	31.0	13.0	28.0	28.0
Total Split (%)	26.7%	26.7%		26.7%	26.7%		26.7%	51.7%	51.7%	21.7%	46.7%	46.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 43.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

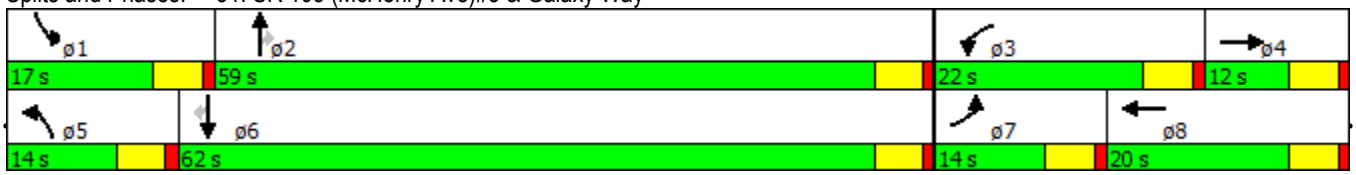
Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	90	190	10	290	50	1380	200	290	870	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	14.0	12.0		22.0	20.0		14.0	59.0	59.0	17.0	62.0	62.0
Total Split (%)	12.7%	10.9%		20.0%	18.2%		12.7%	53.6%	53.6%	15.5%	56.4%	56.4%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 106
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	10	50	100	10	50	50	880	100	50	390	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1294			2106			1060			1388	
Travel Time (s)		29.4			47.9			16.1			21.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	16.0	16.0		16.0	16.0		11.0	33.0	33.0	11.0	33.0	33.0
Total Split (%)	26.7%	26.7%		26.7%	26.7%		18.3%	55.0%	55.0%	18.3%	55.0%	55.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 47
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 32: Coffee Rd & Frontage Road North

33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	50	50	10	100	50	810	50	100	760	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		814			1164			1312			1052	
Travel Time (s)		18.5			26.5			19.9			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	17.0	17.0		17.0	17.0		11.0	29.0	29.0	14.0	32.0	32.0
Total Split (%)	28.3%	28.3%		28.3%	28.3%		18.3%	48.3%	48.3%	23.3%	53.3%	53.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 49.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Coffee Rd & Frontage Road South

34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	10	70	60	10	60	110	690	100	100	850	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			411			1462	
Travel Time (s)		15.7			12.6			6.2			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	13.0	13.0		13.0	13.0		15.0	33.0	33.0	14.0	32.0	32.0
Total Split (%)	21.7%	21.7%		21.7%	21.7%		25.0%	55.0%	55.0%	23.3%	53.3%	53.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 49.4
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Oakdale Rd & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	100	150	870	100	110	920
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	20.0	20.0	43.0		17.0	60.0
Total Split (%)	25.0%	25.0%	53.8%		21.3%	75.0%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 60.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road

36: Davis & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	210	10	10	150	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

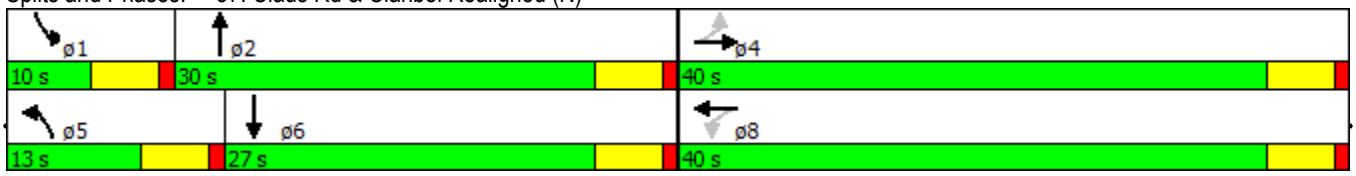
37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	10	90	310	10	50	70	520	160	50	420	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		13.0	30.0		10.0	27.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		16.3%	37.5%		12.5%	33.8%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 61.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)



38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	210	1100	250	350	1230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			1267
Travel Time (s)	12.0		43.7			15.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	9.0	21.0
Total Split (s)	23.0	23.0	36.0	36.0	11.0	47.0
Total Split (%)	32.9%	32.9%	51.4%	51.4%	15.7%	67.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 60.5
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 38: New Claribel Road (S) & Claus Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	10	50	50	10	50	50	200	50	50	170	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	200		0	200		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		694			1366			726			973	
Travel Time (s)		15.8			31.0			16.5			22.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	490	20	20	360	20	20	10	20	20	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	720		720	720		720	300		0	300		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3196			3543			737			1023	
Travel Time (s)		39.6			43.9			16.8			23.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	0	0	2010	560	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	0		1	0	
Taper Length (ft)	60				60	
Link Speed (mph)	30		55			55
Link Distance (ft)	1305		1260			2486
Travel Time (s)	29.7		15.6			30.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	2010	0	0	0	0	1010
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2486			1462	745	
Travel Time (s)	30.8			18.1	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1660	570	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2484	1481		1250	
Travel Time (s)		30.8	18.4		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	1660	0	0	0	0	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2484		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1670	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	1670	0	0	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2323	2226		1058	
Travel Time (s)		28.8	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	2230	0	2090
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						1610
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1610	850	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2296			2293	1098	
Travel Time (s)	28.5			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1610	0	0	0	0	540
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	50	0	0	50	0	260	0	0	380	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		100	0		100
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		164			172			860			1026	
Travel Time (s)		3.7			3.9			13.0			15.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

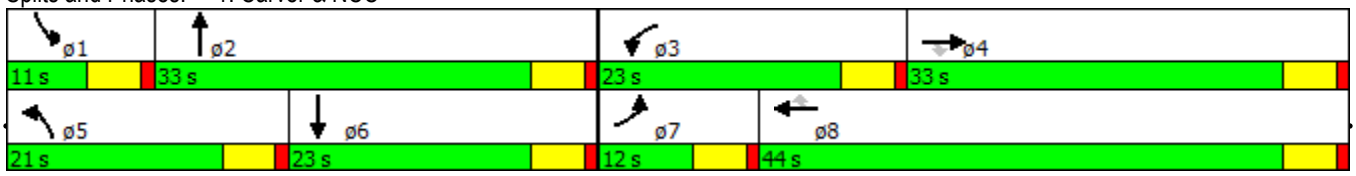
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	1150	140	220	1670	70	220	80	40	30	90	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	12.0	33.0	33.0	23.0	44.0	44.0	21.0	33.0		11.0	23.0	
Total Split (%)	12.0%	33.0%	33.0%	23.0%	44.0%	44.0%	21.0%	33.0%		11.0%	23.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 93.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC

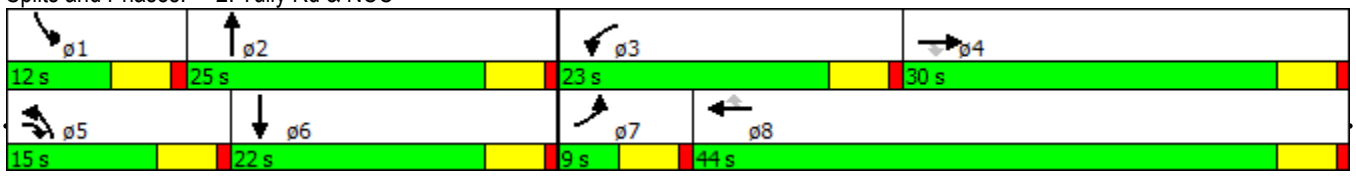


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	710	460	610	1740	50	160	90	170	40	110	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	9.0	30.0	15.0	23.0	44.0	44.0	15.0	25.0		12.0	22.0	
Total Split (%)	10.0%	33.3%	16.7%	25.6%	48.9%	48.9%	16.7%	27.8%		13.3%	24.4%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 74.6
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



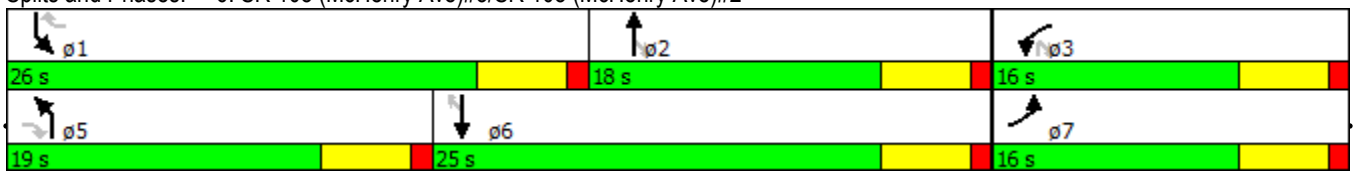
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	40	150	290	270	130	430	140	50	530	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		2		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			No			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	16.0	19.0	16.0	26.0	19.0	18.0		26.0	25.0	25.0
Total Split (%)	26.7%	31.7%	26.7%	43.3%	31.7%	30.0%		43.3%	41.7%	41.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 50.5
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

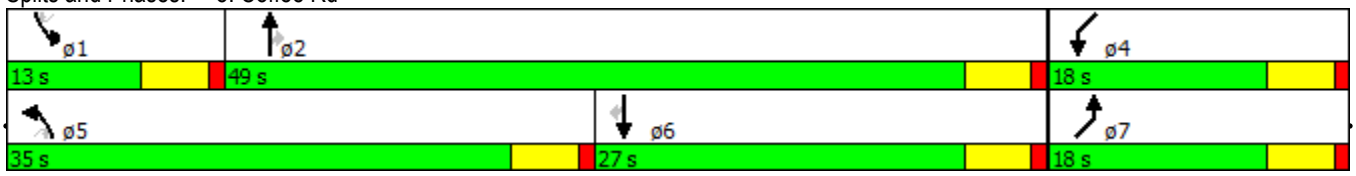


Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	420	200	260	30	290	450	80	100	330	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	600			650			500		500	
Storage Lanes	1			1			1		2	
Taper Length (ft)	120			120			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		1052			1060					
Travel Time (s)		15.9			16.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		7		4	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	7	5	4	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	1.0	4.0	1.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	9.0	9.0
Total Split (s)	35.0	49.0	49.0	13.0	27.0	27.0	18.0	35.0	18.0	13.0
Total Split (%)	43.8%	61.3%	61.3%	16.3%	33.8%	33.8%	22.5%	43.8%	22.5%	16.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 62.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd

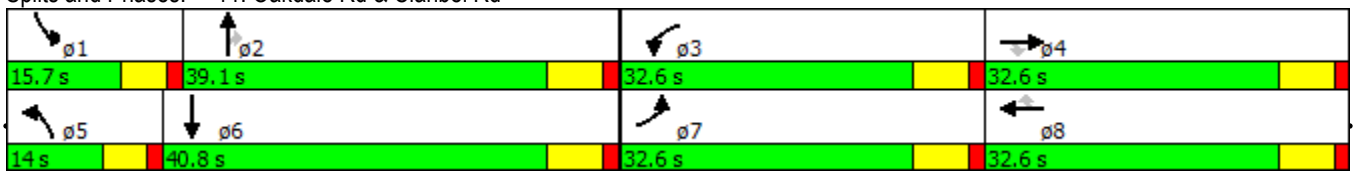


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	30	80	450	20	70	50	290	240	70	620	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	32.6	32.6	32.6	32.6	32.6	32.6	14.0	39.1	39.1	15.7	40.8	
Total Split (%)	27.2%	27.2%	27.2%	27.2%	27.2%	27.2%	11.7%	32.6%	32.6%	13.1%	34.0%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 78.2
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	40	210	30	80	50	140	360	30	20	440	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	12.0	22.0	22.0	11.0	21.0	21.0	21.0	38.0		9.0	26.0	
Total Split (%)	15.0%	27.5%	27.5%	13.8%	26.3%	26.3%	26.3%	47.5%		11.3%	32.5%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: CBD
Cycle Length: 80
Actuated Cycle Length: 56.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

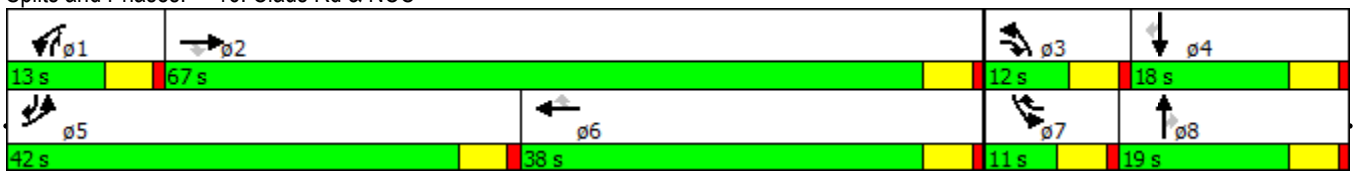
Splits and Phases: 14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	400	1090	260	210	930	70	200	280	180	30	260	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		840	520		720
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1709			840			1344	
Travel Time (s)		14.4			21.2			10.4			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	42.0	67.0	12.0	13.0	38.0	11.0	12.0	19.0	13.0	11.0	18.0	42.0
Total Split (%)	38.2%	60.9%	10.9%	11.8%	34.5%	10.0%	10.9%	17.3%	11.8%	10.0%	16.4%	38.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 85.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & NCC



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	140	250	220	80	100	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	300
Storage Lanes	1			0	1	1
Taper Length (ft)	60				60	
Right Turn on Red				Yes		Yes
Link Speed (mph)		55	55		45	
Link Distance (ft)		2918	5382		860	
Travel Time (s)		36.2	66.7		13.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	7	4	8			
Permitted Phases					6	6
Detector Phase	7	4	8		6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.0	20.0	20.0		20.0	20.0
Total Split (s)	24.0	36.0	23.0		23.0	23.0
Total Split (%)	34.3%	51.4%	32.9%		32.9%	32.9%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min		None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 44.3
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

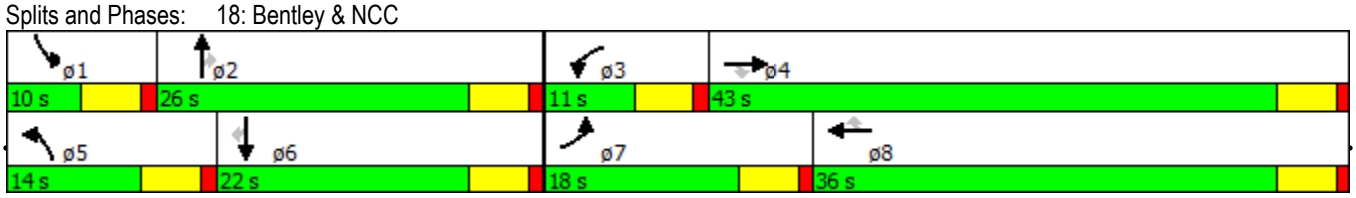
Splits and Phases: 17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	1050	80	30	1080	20	100	80	50	20	100	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	680		580	770		720	200		300	150		300
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2817			2472			1526			1244	
Travel Time (s)		34.9			30.6			23.1			18.8	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	18.0	43.0	43.0	11.0	36.0	36.0	14.0	26.0	26.0	10.0	22.0	22.0
Total Split (%)	20.0%	47.8%	47.8%	12.2%	40.0%	40.0%	15.6%	28.9%	28.9%	11.1%	24.4%	24.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 80
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 18: Bentley & NCC



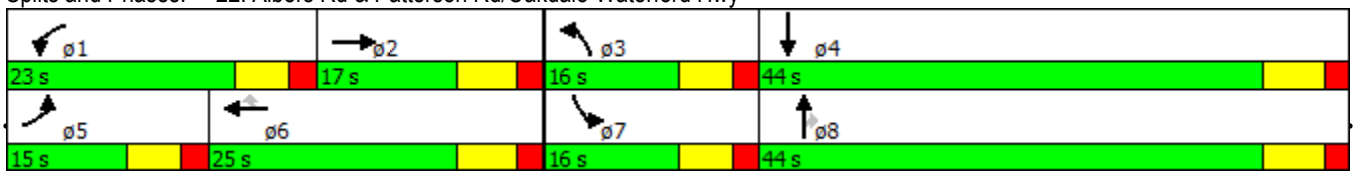
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	50	70	220	280	160	130	860	80	110	930	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		150
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2234			1524			2243	
Travel Time (s)		70.0			27.7			18.9			27.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	14.0	14.5		14.0	14.5	14.5	14.0	14.5	14.5	14.0	14.5	
Total Split (s)	15.0	17.0		23.0	25.0	25.0	16.0	44.0	44.0	16.0	44.0	
Total Split (%)	15.0%	17.0%		23.0%	25.0%	25.0%	16.0%	44.0%	44.0%	16.0%	44.0%	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5		-2.0	-2.5	-2.5	-2.0	-2.5	0.0	-2.0	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	6.5	4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 94.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	90	60	220	60	80	430	460	90	460	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	15.0	14.0	15.0	15.0	14.0	40.0	40.0	15.0	41.0	41.0
Total Split (%)	21.4%	20.0%	21.4%	21.4%	20.0%	57.1%	57.1%	21.4%	58.6%	58.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 47.7
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

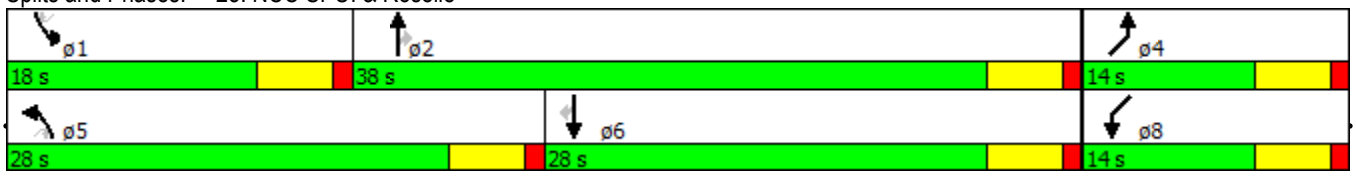
Splits and Phases: 24: Oakdale Rd & NCC SPUI

Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	260	440	360	120	500	60	20	140	210	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	400			550			500		500	
Storage Lanes	1			1			2		2	
Taper Length (ft)	60			60			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		782			1192					
Travel Time (s)		11.8			18.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		4		8	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	4	5	8	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	9.0	9.0
Total Split (s)	28.0	38.0	38.0	18.0	28.0	28.0	14.0	28.0	14.0	18.0
Total Split (%)	40.0%	54.3%	54.3%	25.7%	40.0%	40.0%	20.0%	40.0%	20.0%	25.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 53.3
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: NCC SPUI & Roselle

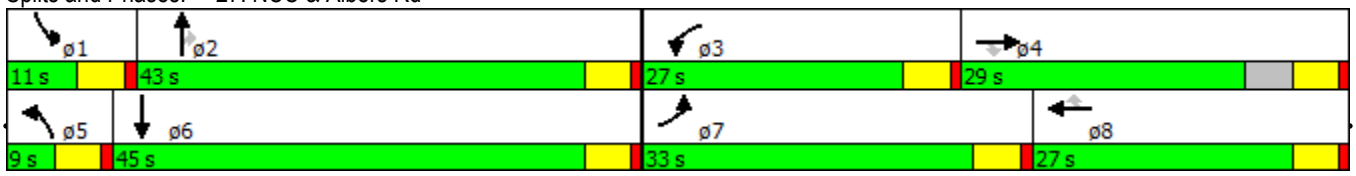


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	680	390	50	270	430	30	20	360	290	50	490	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	920		580	720		580	200		300	200		0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			55	
Link Distance (ft)		1228			3181			2830			1524	
Travel Time (s)		15.2			39.4			64.3			18.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			Free
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	27.0	27.0	9.0	27.0	27.0	9.0	33.0	33.0	9.0	33.0	
Total Split (s)	33.0	29.0	29.0	27.0	27.0	27.0	9.0	43.0	43.0	11.0	45.0	
Total Split (%)	28.9%	25.4%	25.4%	23.7%	23.7%	23.7%	7.9%	37.7%	37.7%	9.6%	39.5%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 114
Actuated Cycle Length: 99.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: NCC & Albers Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	340	340	50	50	430	20	50	10	50	20	10	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	820		820	720		720	300		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	120			120			120			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2931			4113			499			971	
Travel Time (s)		36.3			51.0			11.3			22.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	260	30	440	520	10	20	10	380	20	30	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	700		550	820		390	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			55			30	
Link Distance (ft)		2277			1267			4113			356	
Travel Time (s)		28.2			15.7			51.0			8.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

30: SR 108 (McHenry Ave)#2 & Charity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	40	20	10	20	100	620	20	20	800	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1281			1150			2456	
Travel Time (s)		21.7			29.1			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	13.0	13.0		13.0	13.0		19.0	36.0	36.0	11.0	28.0	28.0
Total Split (%)	21.7%	21.7%		21.7%	21.7%		31.7%	60.0%	60.0%	18.3%	46.7%	46.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 41.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity

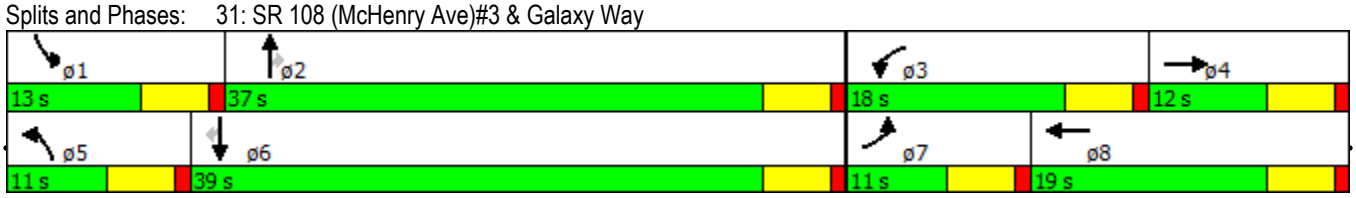
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	30	120	10	190	40	480	100	140	770	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	11.0	12.0		18.0	19.0		11.0	37.0	37.0	13.0	39.0	39.0
Total Split (%)	13.8%	15.0%		22.5%	23.8%		13.8%	46.3%	46.3%	16.3%	48.8%	48.8%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 58
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	10	50	100	10	50	50	230	50	50	620	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1310			2075			1060			1392	
Travel Time (s)		29.8			47.2			16.1			21.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	19.0	19.0		19.0	19.0		11.0	30.0	30.0	11.0	30.0	30.0
Total Split (%)	31.7%	31.7%		31.7%	31.7%		18.3%	50.0%	50.0%	18.3%	50.0%	50.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 40.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 32: Coffee Rd & Frontage Road North

33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	50	50	10	100	50	680	50	100	520	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		804			1164			1312			1052	
Travel Time (s)		18.3			26.5			19.9			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	17.0	17.0		17.0	17.0		11.0	28.0	28.0	15.0	32.0	32.0
Total Split (%)	28.3%	28.3%		28.3%	28.3%		18.3%	46.7%	46.7%	25.0%	53.3%	53.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 45.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Coffee Rd & Frontage Road South

34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	10	120	100	10	100	40	750	50	50	650	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			411			1462	
Travel Time (s)		15.7			12.6			6.2			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	18.0	18.0		18.0	18.0		11.0	31.0	31.0	11.0	31.0	31.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		18.3%	51.7%	51.7%	18.3%	51.7%	51.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 42.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Oakdale Rd & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	280	780	50	50	800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	23.0	23.0	35.0		12.0	47.0
Total Split (%)	32.9%	32.9%	50.0%		17.1%	67.1%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 44.6
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road

36: Davis & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	100	10	10	140	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	10	40	120	10	20	30	490	230	40	620	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	25.0	25.0		25.0	25.0		11.0	34.0		11.0	34.0	
Total Split (%)	35.7%	35.7%		35.7%	35.7%		15.7%	48.6%		15.7%	48.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 45.2
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)

38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	80	580	80	80	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			1267
Travel Time (s)	12.0		43.7			15.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	9.0	21.0
Total Split (s)	24.0	24.0	34.0	34.0	12.0	46.0
Total Split (%)	34.3%	34.3%	48.6%	48.6%	17.1%	65.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 43.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	330	20	40	240	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	971		839			839
Travel Time (s)	22.1		12.7			12.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	pm+ov	NA		Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8				
Detector Phase	8	1	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	8.0	20.0		8.0	20.0
Total Split (s)	20.0	20.0	20.0		20.0	40.0
Total Split (%)	33.3%	33.3%	33.3%		33.3%	66.7%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	1.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	4.0	4.0		4.0	4.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	Min	Min	Min		Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 36.3
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Sterns & Sterns Connection

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	0	0	730	190	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	0		1	0	
Taper Length (ft)	60				60	
Link Speed (mph)	30		55			55
Link Distance (ft)	1305		1260			2486
Travel Time (s)	29.7		15.6			30.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	730	0	0	0	0	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2486			1462	745	
Travel Time (s)	30.8			18.1	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1990	560	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2484	1481		1250	
Travel Time (s)		30.8	18.4		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	1990	0	0	0	0	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2484		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1380	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	1380	0	0	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2318	2226		1058	
Travel Time (s)		28.7	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	1620	0	1750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						1610
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	880	150	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2190			2293	1098	
Travel Time (s)	27.1			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	880	0	0	0	0	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

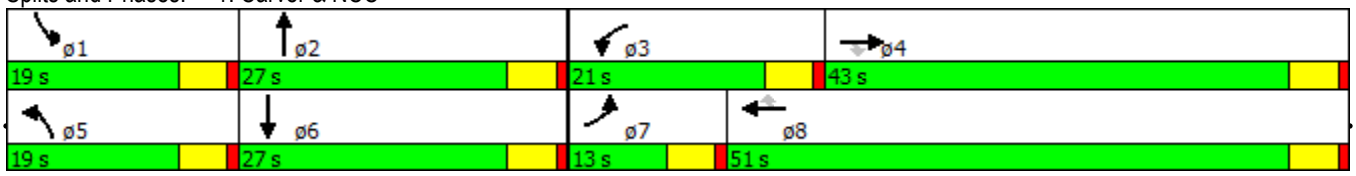
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	1580	270	140	1750	80	160	110	190	150	90	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	13.0	43.0	43.0	21.0	51.0	51.0	19.0	27.0		19.0	27.0	
Total Split (%)	11.8%	39.1%	39.1%	19.1%	46.4%	46.4%	17.3%	24.5%		17.3%	24.5%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 106
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC

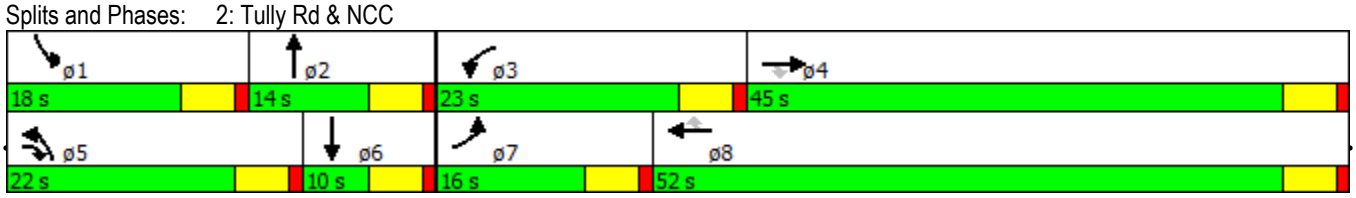


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	1570	320	530	1350	60	580	220	860	160	210	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Total Split (s)	16.0	45.0	22.0	23.0	52.0	52.0	22.0	14.0		18.0	10.0	
Total Split (%)	16.0%	45.0%	22.0%	23.0%	52.0%	52.0%	22.0%	14.0%		18.0%	10.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 95.4
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



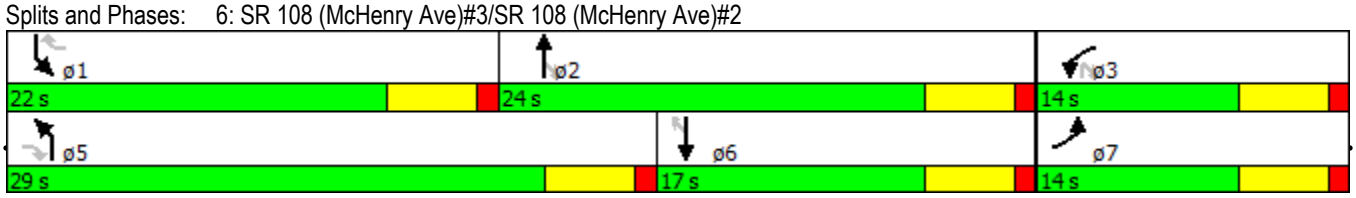
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	240	340	290	200	200	660	700	170	520	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		2		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	14.0	29.0	14.0	22.0	29.0	24.0		22.0	17.0	17.0
Total Split (%)	23.3%	48.3%	23.3%	36.7%	48.3%	40.0%		36.7%	28.3%	28.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 53
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2



Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	300	260	420	50	280	260	700	280	360	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	600			650			500		500	
Storage Lanes	1			1			1		2	
Taper Length (ft)	120			120			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		1042			1060					
Travel Time (s)		15.8			16.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		7		4	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	7	5	4	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	9.0	9.0
Total Split (s)	24.0	34.0	34.0	11.0	21.0	21.0	25.0	24.0	25.0	11.0
Total Split (%)	34.3%	48.6%	48.6%	15.7%	30.0%	30.0%	35.7%	34.3%	35.7%	15.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 60.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

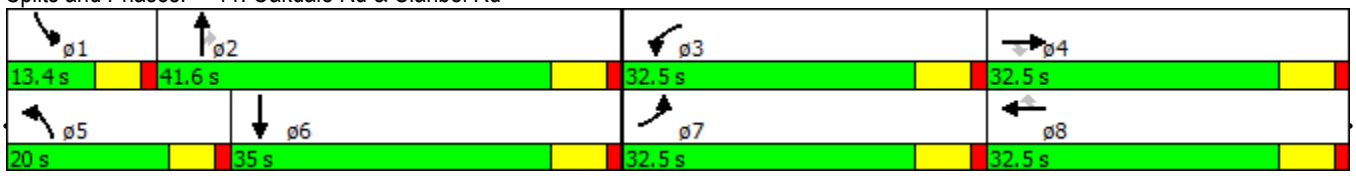
Splits and Phases: 8: Coffee Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	20	140	440	20	60	190	680	610	80	680	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	20.0	41.6	41.6	13.4	35.0	
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	16.7%	34.7%	34.7%	11.2%	29.2%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 91.7
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	190	240	80	60	20	220	510	80	40	410	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	11.0	23.0	23.0	14.0	26.0	26.0	27.0	41.0		12.0	26.0	
Total Split (%)	12.2%	25.6%	25.6%	15.6%	28.9%	28.9%	30.0%	45.6%		13.3%	28.9%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 73.9
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	1140	230	470	1020	50	380	280	250	70	390	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		840	520		720
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1709			840			1344	
Travel Time (s)		14.4			21.2			10.4			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	33.0	54.0	19.0	22.0	43.0	11.0	19.0	33.0	22.0	11.0	25.0	33.0
Total Split (%)	27.5%	45.0%	15.8%	18.3%	35.8%	9.2%	15.8%	27.5%	18.3%	9.2%	20.8%	27.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 103.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & NCC

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	360	250	290	100	140	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	300
Storage Lanes	1			0	1	1
Taper Length (ft)	60				60	
Right Turn on Red				Yes		Yes
Link Speed (mph)		55	55		45	
Link Distance (ft)		2918	5382		860	
Travel Time (s)		36.2	66.7		13.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	7	4	8			
Permitted Phases					6	6
Detector Phase	7	4	8		6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.0	20.0	20.0		20.0	20.0
Total Split (s)	25.0	50.0	25.0		20.0	20.0
Total Split (%)	35.7%	71.4%	35.7%		28.6%	28.6%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min		None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 59
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

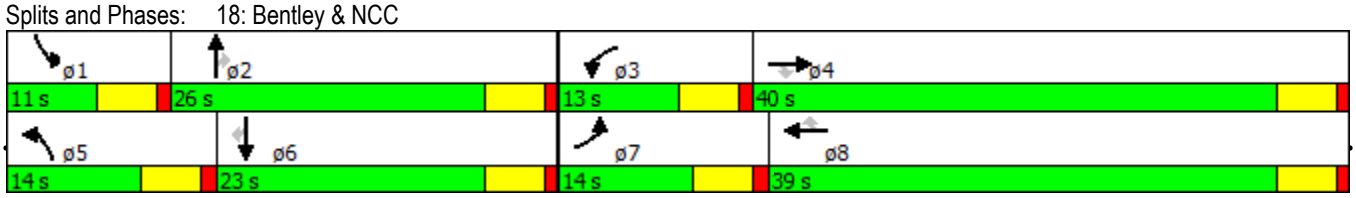
Splits and Phases: 17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	1210	160	90	1100	20	100	110	70	20	150	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	680		580	770		720	200		300	150		300
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2841			2448			1526			1244	
Travel Time (s)		35.2			30.3			23.1			18.8	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	14.0	40.0	40.0	13.0	39.0	39.0	14.0	26.0	26.0	11.0	23.0	23.0
Total Split (%)	15.6%	44.4%	44.4%	14.4%	43.3%	43.3%	15.6%	28.9%	28.9%	12.2%	25.6%	25.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 79
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 18: Bentley & NCC



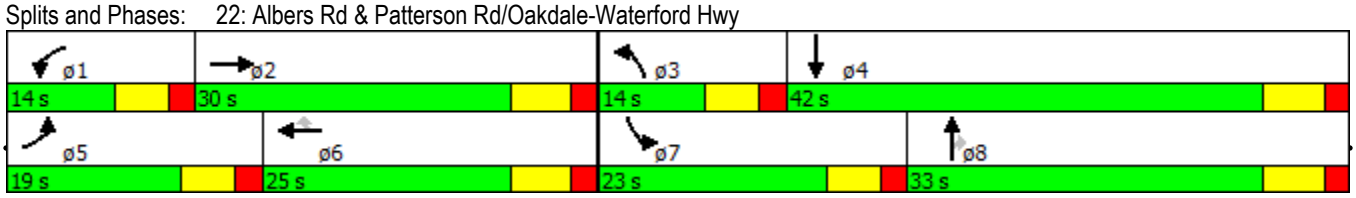
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	400	120	90	100	140	60	800	200	210	830	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		150
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2234			1524			2243	
Travel Time (s)		70.0			27.7			18.9			27.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	14.0	14.5		14.0	14.5	14.5	14.0	14.5	14.5	14.0	14.5	
Total Split (s)	19.0	30.0		14.0	25.0	25.0	14.0	33.0	33.0	23.0	42.0	
Total Split (%)	19.0%	30.0%		14.0%	25.0%	25.0%	14.0%	33.0%	33.0%	23.0%	42.0%	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5		-2.0	-2.5	-2.5	-2.0	-2.5	0.0	-2.0	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	6.5	4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 92.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	770	190	300	190	20	520	360	130	610	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	27.0	19.0	27.0	19.0	19.0	24.0	24.0	19.0	24.0	24.0
Total Split (%)	38.6%	27.1%	38.6%	27.1%	27.1%	34.3%	34.3%	27.1%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 63.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

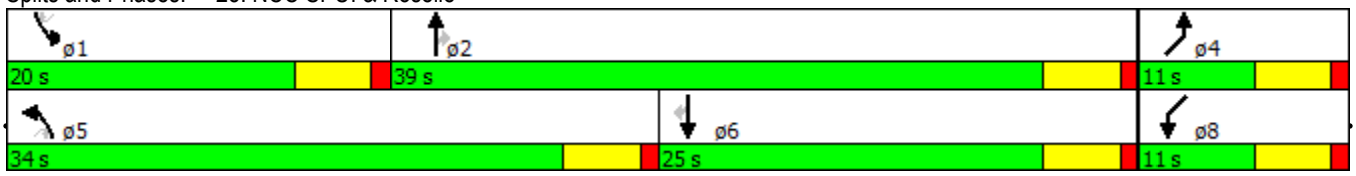
Splits and Phases: 24: Oakdale Rd & NCC SPUI

Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	170	590	270	100	580	50	70	360	110	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	400			550			500		500	
Storage Lanes	1			1			2		2	
Taper Length (ft)	60			60			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		782			1192					
Travel Time (s)		11.8			18.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		4		8	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	4	5	8	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	9.0	9.0
Total Split (s)	34.0	39.0	39.0	20.0	25.0	25.0	11.0	34.0	11.0	20.0
Total Split (%)	48.6%	55.7%	55.7%	28.6%	35.7%	35.7%	15.7%	48.6%	15.7%	28.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 54.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: NCC SPUI & Roselle

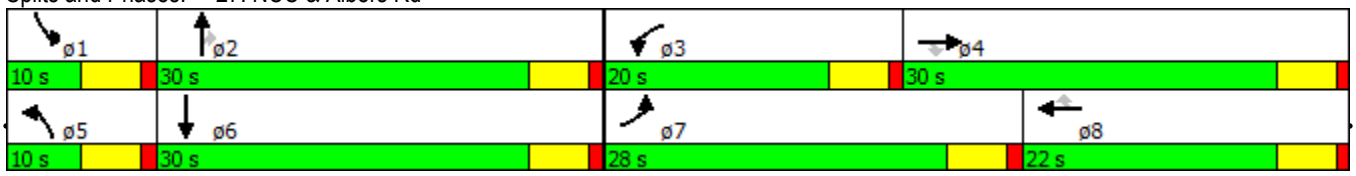


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	640	640	20	280	520	80	20	340	310	30	340	670
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	920		580	720		580	200		300	200		0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			55	
Link Distance (ft)		1228			3030			2830			1524	
Travel Time (s)		15.2			37.6			64.3			18.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			Free
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	
Total Split (s)	28.0	30.0	30.0	20.0	22.0	22.0	10.0	30.0	30.0	10.0	30.0	
Total Split (%)	31.1%	33.3%	33.3%	22.2%	24.4%	24.4%	11.1%	33.3%	33.3%	11.1%	33.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 78.8
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: NCC & Albers Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	400	530	50	50	360	20	50	10	50	30	10	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	820		820	720		720	300		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	120			120			120			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2908			4138			525			978	
Travel Time (s)		36.0			51.3			11.9			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	440	20	390	400	20	30	40	540	20	20	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	700		550	820		390	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			55			30	
Link Distance (ft)		2286			1267			4138			356	
Travel Time (s)		28.3			15.7			51.3			8.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	10	130	50	10	50	100	950	50	50	720	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1296			1150			2456	
Travel Time (s)		21.7			29.5			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	16.0	16.0		16.0	16.0		16.0	31.0	31.0	13.0	28.0	28.0
Total Split (%)	26.7%	26.7%		26.7%	26.7%		26.7%	51.7%	51.7%	21.7%	46.7%	46.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 42.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity

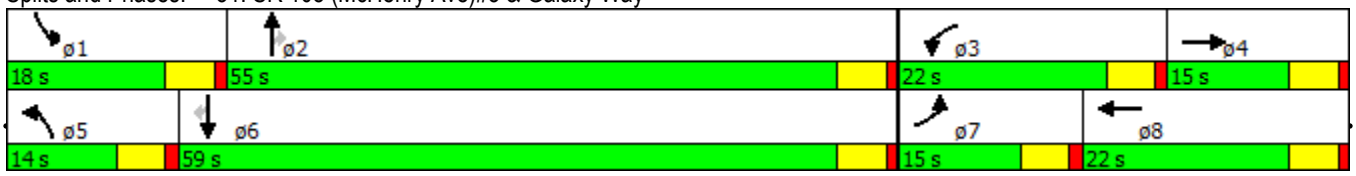
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	90	190	10	290	50	1170	200	290	790	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	15.0	15.0		22.0	22.0		14.0	55.0	55.0	18.0	59.0	59.0
Total Split (%)	13.6%	13.6%		20.0%	20.0%		12.7%	50.0%	50.0%	16.4%	53.6%	53.6%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 100.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	10	50	100	10	50	50	840	100	50	440	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1332			2058			1060			1370	
Travel Time (s)		30.3			46.8			16.1			20.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	16.0	16.0		16.0	16.0		11.0	33.0	33.0	11.0	33.0	33.0
Total Split (%)	26.7%	26.7%		26.7%	26.7%		18.3%	55.0%	55.0%	18.3%	55.0%	55.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 44.1
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	50	50	10	100	50	780	50	100	720	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		799			1147			1312			1042	
Travel Time (s)		18.2			26.1			19.9			15.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	17.0	17.0		17.0	17.0		11.0	29.0	29.0	14.0	32.0	32.0
Total Split (%)	28.3%	28.3%		28.3%	28.3%		18.3%	48.3%	48.3%	23.3%	53.3%	53.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 49.2
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	10	70	60	10	60	110	770	100	100	890	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			454			1462	
Travel Time (s)		15.7			12.6			6.9			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	13.0	13.0		13.0	13.0		15.0	33.0	33.0	14.0	32.0	32.0
Total Split (%)	21.7%	21.7%		21.7%	21.7%		25.0%	55.0%	55.0%	23.3%	53.3%	53.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 50.1
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Oakdale Rd & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	100	150	880	100	110	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	20.0	20.0	43.0		17.0	60.0
Total Split (%)	25.0%	25.0%	53.8%		21.3%	75.0%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 61.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road

36: Davis & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	200	10	10	240	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

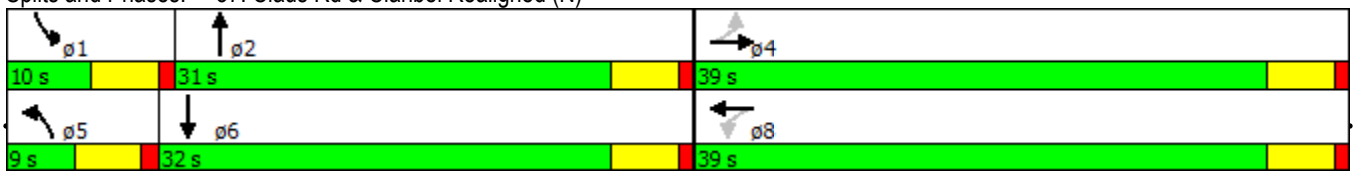
37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	110	310	10	50	30	610	160	50	480	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	39.0	39.0		39.0	39.0		9.0	31.0		10.0	32.0	
Total Split (%)	48.8%	48.8%		48.8%	48.8%		11.3%	38.8%		12.5%	40.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 63.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	80	830	80	80	1010
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			1267
Travel Time (s)	12.0		43.7			15.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	9.0	21.0
Total Split (s)	22.0	22.0	38.0	38.0	10.0	48.0
Total Split (%)	31.4%	31.4%	54.3%	54.3%	14.3%	68.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 48.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

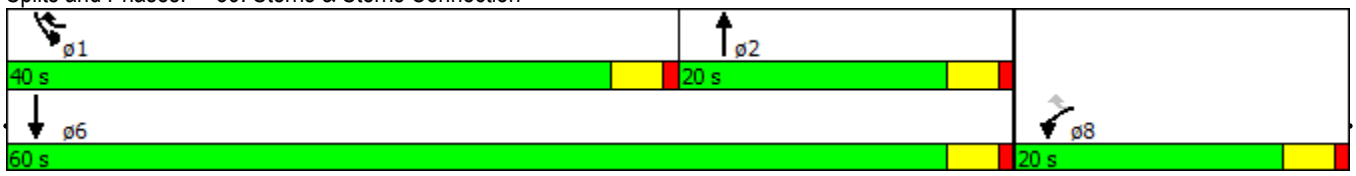
Splits and Phases: 38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	390	30	60	450	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	60				60	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	978		839			839
Travel Time (s)	22.2		12.7			12.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	pm+ov	NA		Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8				
Detector Phase	8	1	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	8.0	20.0		8.0	20.0
Total Split (s)	20.0	40.0	20.0		40.0	60.0
Total Split (%)	25.0%	50.0%	25.0%		50.0%	75.0%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	1.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	4.0	4.0		4.0	4.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	Min	Min	Min		Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 46.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Sterns & Sterns Connection



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	0	0	2010	580	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	0		1	0	
Taper Length (ft)	60				60	
Link Speed (mph)	30		55			55
Link Distance (ft)	1305		1260			2486
Travel Time (s)	29.7		15.6			30.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	2010	0	0	0	0	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2486			1462	745	
Travel Time (s)	30.8			18.1	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1530	490	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2484	1481		1250	
Travel Time (s)		30.8	18.4		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	1530	0	0	0	0	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2484		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1310	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	1310	0	0	540
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2310	2226		1058	
Travel Time (s)		28.6	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	1840	0	1840
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						1610
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1410	960	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2305			2293	1098	
Travel Time (s)	28.6			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1410	0	0	0	0	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

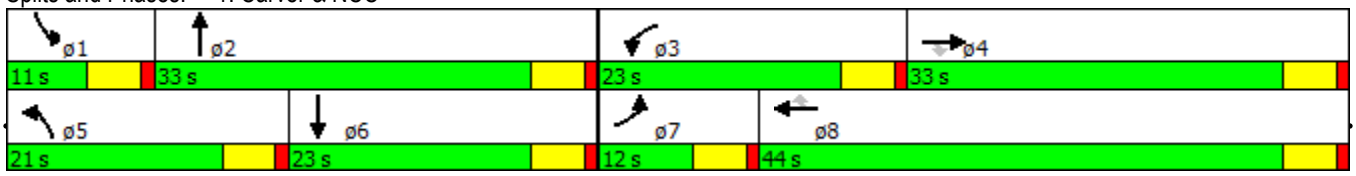
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	1150	140	220	1670	70	220	80	40	30	90	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	12.0	33.0	33.0	23.0	44.0	44.0	21.0	33.0		11.0	23.0	
Total Split (%)	12.0%	33.0%	33.0%	23.0%	44.0%	44.0%	21.0%	33.0%		11.0%	23.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 93.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC

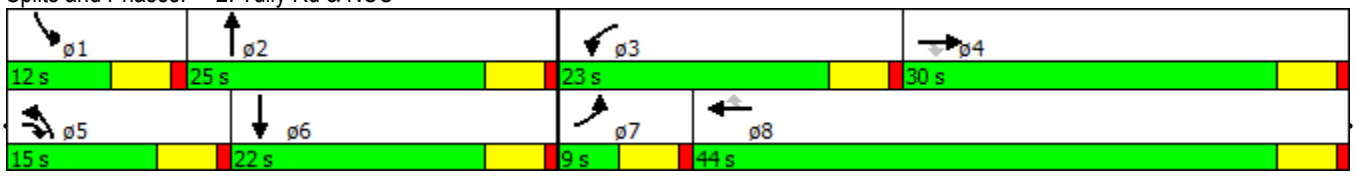


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	710	460	610	1740	50	160	90	170	40	110	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	9.0	30.0	15.0	23.0	44.0	44.0	15.0	25.0		12.0	22.0	
Total Split (%)	10.0%	33.3%	16.7%	25.6%	48.9%	48.9%	16.7%	27.8%		13.3%	24.4%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 74.6
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



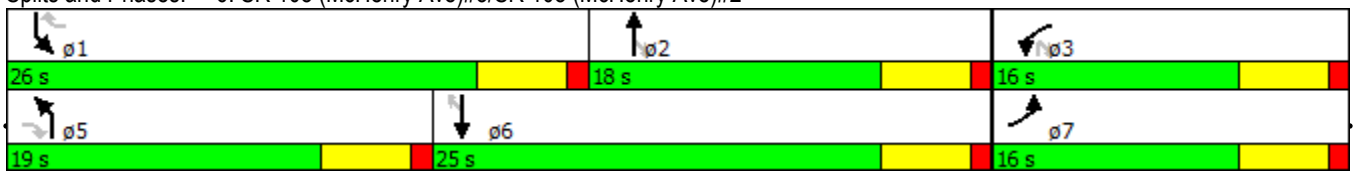
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	40	150	290	270	130	430	140	50	530	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		2		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	16.0	19.0	16.0	26.0	19.0	18.0		26.0	25.0	25.0
Total Split (%)	26.7%	31.7%	26.7%	43.3%	31.7%	30.0%		43.3%	41.7%	41.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 50.5
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

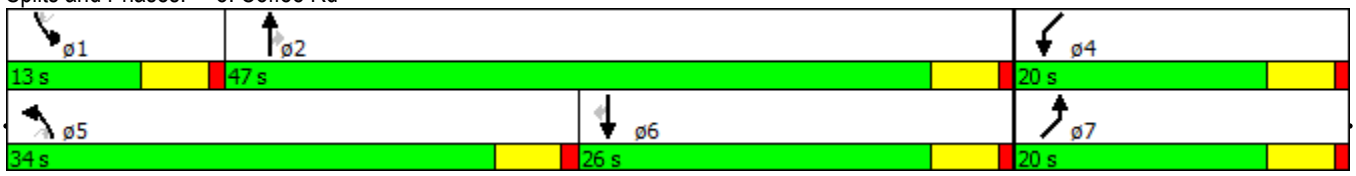


Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	420	200	260	30	290	450	90	100	330	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	600			650			500		500	
Storage Lanes	1			1			1		2	
Taper Length (ft)	120			120			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		1052			1060					
Travel Time (s)		15.9			16.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		7		4	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	7	5	4	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	20.0	9.0
Total Split (s)	34.0	47.0	47.0	13.0	26.0	26.0	20.0	34.0	20.0	13.0
Total Split (%)	42.5%	58.8%	58.8%	16.3%	32.5%	32.5%	25.0%	42.5%	25.0%	16.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 63.6
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Coffee Rd

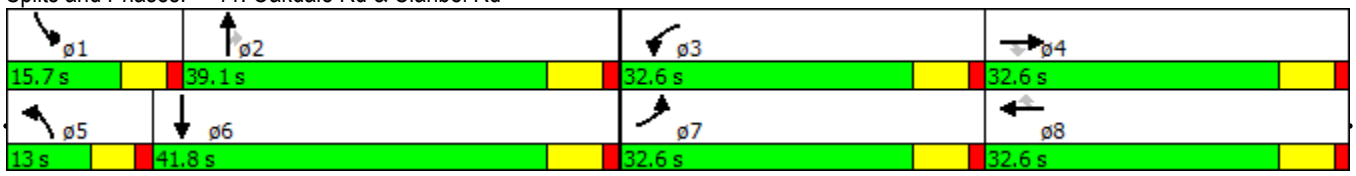


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	30	80	450	20	70	50	300	240	70	650	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	32.6	32.6	32.6	32.6	32.6	32.6	13.0	39.1	39.1	15.7	41.8	
Total Split (%)	27.2%	27.2%	27.2%	27.2%	27.2%	27.2%	10.8%	32.6%	32.6%	13.1%	34.8%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 78.7
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd



14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	40	210	30	80	50	140	360	30	20	440	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	12.0	22.0	22.0	11.0	21.0	21.0	21.0	38.0		9.0	26.0	
Total Split (%)	15.0%	27.5%	27.5%	13.8%	26.3%	26.3%	26.3%	47.5%		11.3%	32.5%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: CBD
Cycle Length: 80
Actuated Cycle Length: 56.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 14: Roselle & Claribel Realigned

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	420	1040	260	200	850	50	200	310	130	30	300	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		840	520		720
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1709			840			1344	
Travel Time (s)		14.4			21.2			10.4			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	41.0	66.0	12.0	12.0	37.0	11.0	12.0	21.0	12.0	11.0	20.0	41.0
Total Split (%)	37.3%	60.0%	10.9%	10.9%	33.6%	10.0%	10.9%	19.1%	10.9%	10.0%	18.2%	37.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 84.4
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & NCC

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	140	250	220	80	100	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	300
Storage Lanes	1			0	1	1
Taper Length (ft)	60				60	
Right Turn on Red				Yes		Yes
Link Speed (mph)		55	55		45	
Link Distance (ft)		2918	5382		860	
Travel Time (s)		36.2	66.7		13.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	7	4	8			
Permitted Phases					6	6
Detector Phase	7	4	8		6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.0	20.0	20.0		20.0	20.0
Total Split (s)	24.0	36.0	23.0		23.0	23.0
Total Split (%)	34.3%	51.4%	32.9%		32.9%	32.9%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min		None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 44.3
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

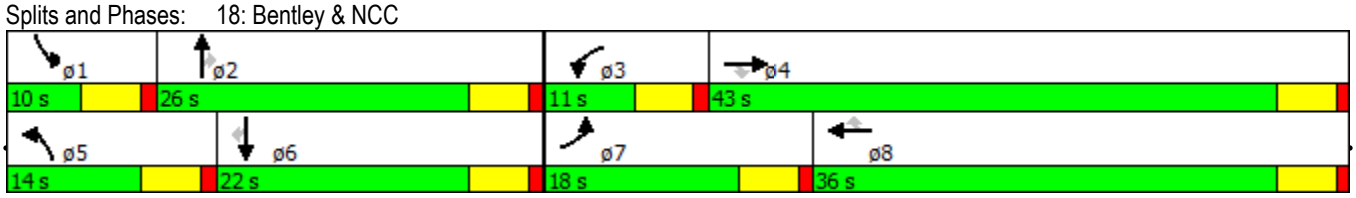
Splits and Phases: 17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	920	80	30	970	20	100	80	50	20	100	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	680		580	770		720	200		300	150		300
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		2827			2462			1526			1244	
Travel Time (s)		35.0			30.5			23.1			18.8	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	20.0
Total Split (s)	18.0	43.0	43.0	11.0	36.0	36.0	14.0	26.0	26.0	10.0	22.0	22.0
Total Split (%)	20.0%	47.8%	47.8%	12.2%	40.0%	40.0%	15.6%	28.9%	28.9%	11.1%	24.4%	24.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 78.5
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 18: Bentley & NCC



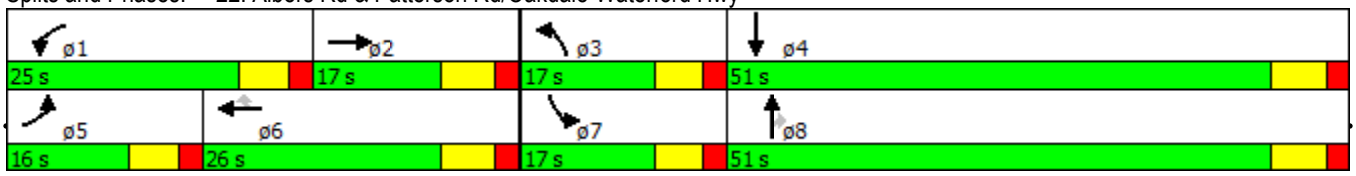
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	50	70	220	280	160	130	950	80	110	1010	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		150
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2234			1521			2243	
Travel Time (s)		70.0			27.7			18.9			27.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	14.0	14.5		14.0	14.5	14.5	14.0	14.5	14.5	14.0	14.5	
Total Split (s)	16.0	17.0		25.0	26.0	26.0	17.0	51.0	51.0	17.0	51.0	
Total Split (%)	14.5%	15.5%		22.7%	23.6%	23.6%	15.5%	46.4%	46.4%	15.5%	46.4%	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5		-2.0	-2.5	-2.5	-2.0	-2.5	0.0	-2.0	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	6.5	4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 102.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	90	60	180	50	80	450	440	90	490	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	14.0	14.0	14.0	15.0	14.0	41.0	41.0	15.0	42.0	42.0
Total Split (%)	20.0%	20.0%	20.0%	21.4%	20.0%	58.6%	58.6%	21.4%	60.0%	60.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 45.2
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

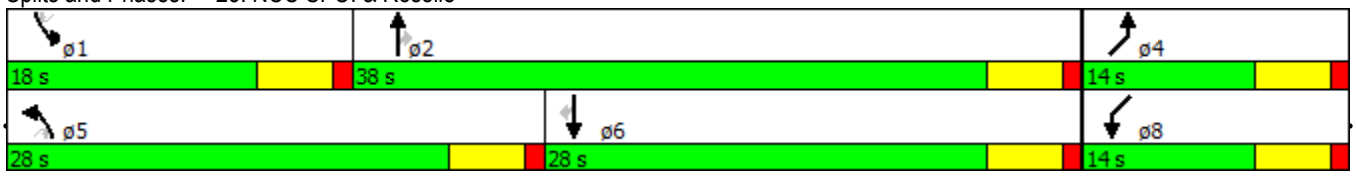
Splits and Phases: 24: Oakdale Rd & NCC SPUI

Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	260	440	360	120	500	60	20	140	180	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	400			550			500		500	
Storage Lanes	1			1			2		2	
Taper Length (ft)	60			60			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		782			1192					
Travel Time (s)		11.8			18.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		4		8	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	4	5	8	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	9.0	9.0
Total Split (s)	28.0	38.0	38.0	18.0	28.0	28.0	14.0	28.0	14.0	18.0
Total Split (%)	40.0%	54.3%	54.3%	25.7%	40.0%	40.0%	20.0%	40.0%	20.0%	25.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 50.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: NCC SPUI & Roselle

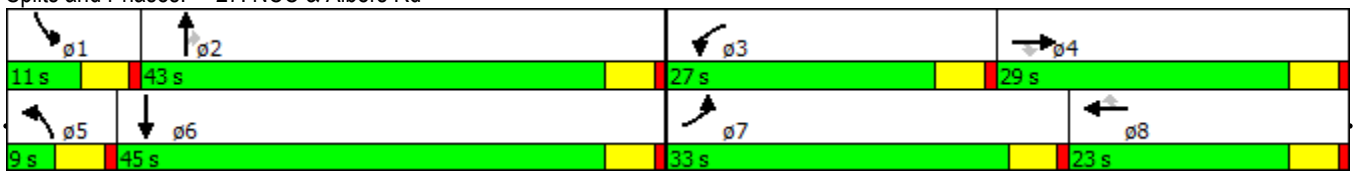


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	710	230	50	210	270	20	20	430	220	20	550	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	920		580	720		580	200		300	200		0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			55	
Link Distance (ft)		1226			3062			2830			1521	
Travel Time (s)		15.2			38.0			64.3			18.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			Free
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	
Total Split (s)	33.0	29.0	29.0	27.0	23.0	23.0	9.0	43.0	43.0	11.0	45.0	
Total Split (%)	30.0%	26.4%	26.4%	24.5%	20.9%	20.9%	8.2%	39.1%	39.1%	10.0%	40.9%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 96.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: NCC & Albers Rd

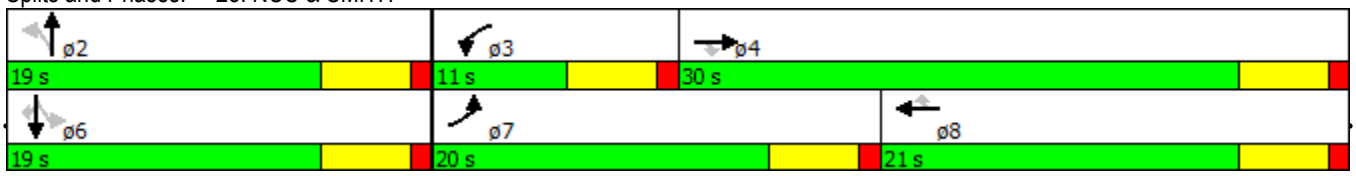


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	320	20	20	360	20	20	20	20	20	20	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	870		670	650		650	0		0	0		630
Storage Lanes	1		1	1		1	0		0	0		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		5410			4096			1366			1125	
Travel Time (s)		67.1			50.8			31.0			25.6	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2			6		6
Detector Phase	7	4	4	3	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	20.0	30.0	30.0	11.0	21.0	21.0	19.0	19.0		19.0	19.0	19.0
Total Split (%)	33.3%	50.0%	50.0%	18.3%	35.0%	35.0%	31.7%	31.7%		31.7%	31.7%	31.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 40.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 28: NCC & SMITH



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	210	80	320	230	30	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	820		0	0
Storage Lanes		0	0		1	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2790			1209	1731	
Travel Time (s)	34.6			15.0	21.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Yield			Yield	Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

30: SR 108 (McHenry Ave)#2 & Charity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	40	20	10	20	100	620	20	20	800	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1308			1150			2456	
Travel Time (s)		21.7			29.7			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	13.0	13.0		13.0	13.0		19.0	36.0	36.0	11.0	28.0	28.0
Total Split (%)	21.7%	21.7%		21.7%	21.7%		31.7%	60.0%	60.0%	18.3%	46.7%	46.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 41.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity

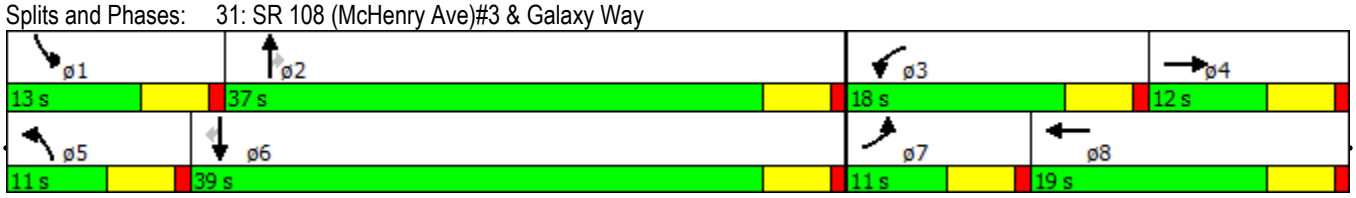
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	30	120	10	190	40	480	100	140	770	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	11.0	12.0		18.0	19.0		11.0	37.0	37.0	13.0	39.0	39.0
Total Split (%)	13.8%	15.0%		22.5%	23.8%		13.8%	46.3%	46.3%	16.3%	48.8%	48.8%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 58
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	10	50	100	10	50	50	240	50	50	620	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1322			2095			1060			1396	
Travel Time (s)		30.0			47.6			16.1			21.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	19.0	19.0		19.0	19.0		11.0	30.0	30.0	11.0	30.0	30.0
Total Split (%)	31.7%	31.7%		31.7%	31.7%		18.3%	50.0%	50.0%	18.3%	50.0%	50.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 40.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 32: Coffee Rd & Frontage Road North

33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	50	50	10	100	50	680	50	100	520	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		823			1152			1312			1052	
Travel Time (s)		18.7			26.2			19.9			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	17.0	17.0		17.0	17.0		11.0	28.0	28.0	15.0	32.0	32.0
Total Split (%)	28.3%	28.3%		28.3%	28.3%		18.3%	46.7%	46.7%	25.0%	53.3%	53.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 45.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Coffee Rd & Frontage Road South

34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	10	120	100	10	100	40	750	50	50	640	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			411			1462	
Travel Time (s)		15.7			12.6			6.2			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	18.0	18.0		18.0	18.0		11.0	31.0	31.0	11.0	31.0	31.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		18.3%	51.7%	51.7%	18.3%	51.7%	51.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 42.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Oakdale Rd & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	280	780	50	50	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	23.0	23.0	35.0		12.0	47.0
Total Split (%)	32.9%	32.9%	50.0%		17.1%	67.1%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 44.6
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road

36: Davis & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	120	10	10	140	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	10	60	120	10	20	30	520	230	40	640	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	25.0	25.0		25.0	25.0		11.0	34.0		11.0	34.0	
Total Split (%)	35.7%	35.7%		35.7%	35.7%		15.7%	48.6%		15.7%	48.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 45.6
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)

38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	80	560	80	80	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			1267
Travel Time (s)	12.0		43.7			15.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	9.0	21.0
Total Split (s)	24.0	24.0	34.0	34.0	12.0	46.0
Total Split (%)	34.3%	34.3%	48.6%	48.6%	17.1%	65.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 42.6
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 38: New Claribel Road (S) & Claus Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	320	20	20	360	20	20	10	20	20	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		2897			3444			697			901	
Travel Time (s)		35.9			42.7			15.8			20.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	0	0	730	190	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	0		1	0	
Taper Length (ft)	60				60	
Link Speed (mph)	30		55			55
Link Distance (ft)	1305		1260			2486
Travel Time (s)	29.7		15.6			30.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	730	0	0	0	0	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2486			1462	745	
Travel Time (s)	30.8			18.1	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1990	560	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2484	1481		1250	
Travel Time (s)		30.8	18.4		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	1990	0	0	0	0	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2484		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1380	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	1380	0	0	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2312	2226		1058	
Travel Time (s)		28.7	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	1540	0	1720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						1610
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	870	150	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2274			2293	1098	
Travel Time (s)	28.2			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	870	0	0	0	0	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

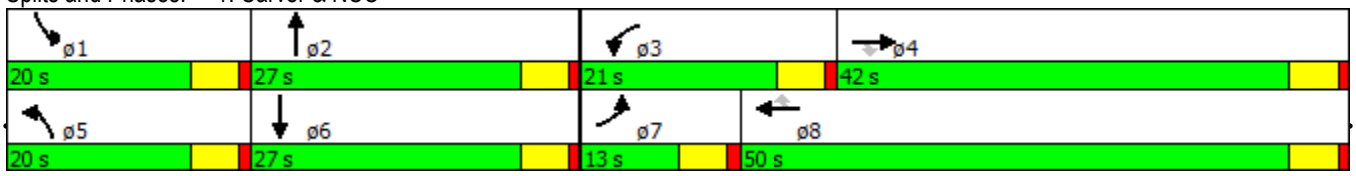
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	1580	270	140	1750	80	160	110	190	150	90	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	530		410	580		530	330		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		3332			2622			2501			2443	
Travel Time (s)		41.3			32.5			34.1			33.3	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	13.0	42.0	42.0	21.0	50.0	50.0	20.0	27.0		20.0	27.0	
Total Split (%)	11.8%	38.2%	38.2%	19.1%	45.5%	45.5%	18.2%	24.5%		18.2%	24.5%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 105.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Carver & NCC

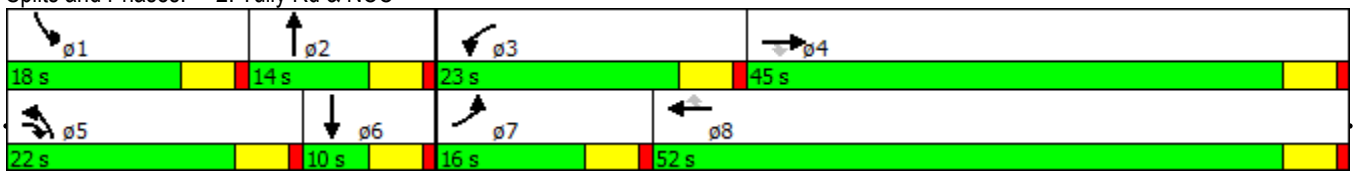


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	1570	320	530	1350	60	580	220	860	160	210	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	715		355	920		750	800		850	550		0
Storage Lanes	1		1	3		1	1		1	1		0
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			50			50	
Link Distance (ft)		2622			2690			1031			4028	
Travel Time (s)		32.5			33.3			14.1			54.9	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Free	Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Total Split (s)	16.0	45.0	22.0	23.0	52.0	52.0	22.0	14.0		18.0	10.0	
Total Split (%)	16.0%	45.0%	22.0%	23.0%	52.0%	52.0%	22.0%	14.0%		18.0%	10.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 95.4
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Tully Rd & NCC



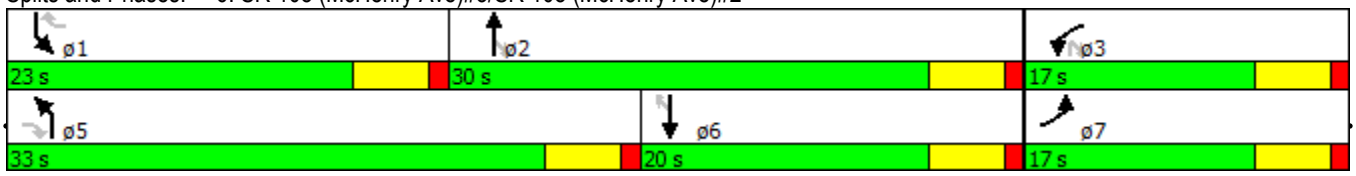
6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2

Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	240	340	290	200	200	660	700	170	520	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	300		300		700			550		
Storage Lanes	2		2		1			1		
Taper Length (ft)	60		60		120			120		
Right Turn on Red		No		No			No			Yes
Link Speed (mph)						45			50	
Link Distance (ft)						841			1150	
Travel Time (s)						12.7			15.7	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	custom	Prot	NA	Perm
Protected Phases	7		3		5	2		1	6	
Permitted Phases		5		1			2 3			6
Detector Phase	7	5	3	1	5	2	2 3	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	17.0	33.0	17.0	23.0	33.0	30.0		23.0	20.0	20.0
Total Split (%)	24.3%	47.1%	24.3%	32.9%	47.1%	42.9%		32.9%	28.6%	28.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 59.9
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: SR 108 (McHenry Ave)#3/SR 108 (McHenry Ave)#2



Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	300	260	420	50	290	260	710	280	350	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	600			650			500		500	
Storage Lanes	1			1			1		2	
Taper Length (ft)	120			120			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		1052			1060					
Travel Time (s)		15.9			16.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		7		4	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	7	5	4	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	9.0	9.0
Total Split (s)	24.0	34.0	34.0	11.0	21.0	21.0	25.0	24.0	25.0	11.0
Total Split (%)	34.3%	48.6%	48.6%	15.7%	30.0%	30.0%	35.7%	34.3%	35.7%	15.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 61.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

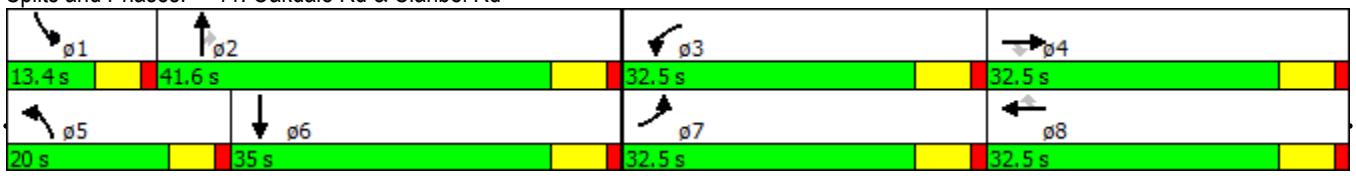
Splits and Phases: 8: Coffee Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	20	140	440	20	60	190	710	610	80	690	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	410		0	310		475	300		0	315		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		1789			1936			1324			4042	
Travel Time (s)		22.2			24.0			20.1			61.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	11.5	32.5	32.5	11.5	32.5	
Total Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	20.0	41.6	41.6	13.4	35.0	
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	16.7%	34.7%	34.7%	11.2%	29.2%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	
Total Lost Time (s)	5.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 92
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Oakdale Rd & Claribel Rd

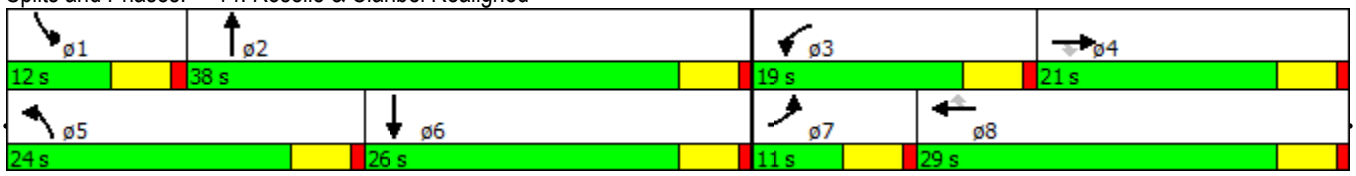


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	190	240	160	60	20	220	510	50	40	410	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			55			45			45	
Link Distance (ft)		1216			1072			1192			488	
Travel Time (s)		27.6			13.3			18.1			7.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	11.0	21.0	21.0	19.0	29.0	29.0	24.0	38.0		12.0	26.0	
Total Split (%)	12.2%	23.3%	23.3%	21.1%	32.2%	32.2%	26.7%	42.2%		13.3%	28.9%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 80.8
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 14: Roselle & Claribel Realigned



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	500	1050	230	440	980	40	380	310	220	60	420	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	800		1000	970		850	720		840	520		720
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	120			240			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1163			1709			840			1344	
Travel Time (s)		14.4			21.2			10.4			20.4	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	34.0	54.0	19.0	21.0	41.0	11.0	19.0	34.0	21.0	11.0	26.0	34.0
Total Split (%)	28.3%	45.0%	15.8%	17.5%	34.2%	9.2%	15.8%	28.3%	17.5%	9.2%	21.7%	28.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5	-1.5	-2.5	-2.5
Total Lost Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	2.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104.9
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Claus Rd & NCC

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	360	250	290	100	140	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	300
Storage Lanes	1			0	1	1
Taper Length (ft)	60				60	
Right Turn on Red				Yes		Yes
Link Speed (mph)		55	55		45	
Link Distance (ft)		2918	5382		860	
Travel Time (s)		36.2	66.7		13.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	7	4	8			
Permitted Phases					6	6
Detector Phase	7	4	8		6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.0	20.0	20.0		20.0	20.0
Total Split (s)	25.0	50.0	25.0		20.0	20.0
Total Split (%)	35.7%	71.4%	35.7%		28.6%	28.6%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min		None	None

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 59
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

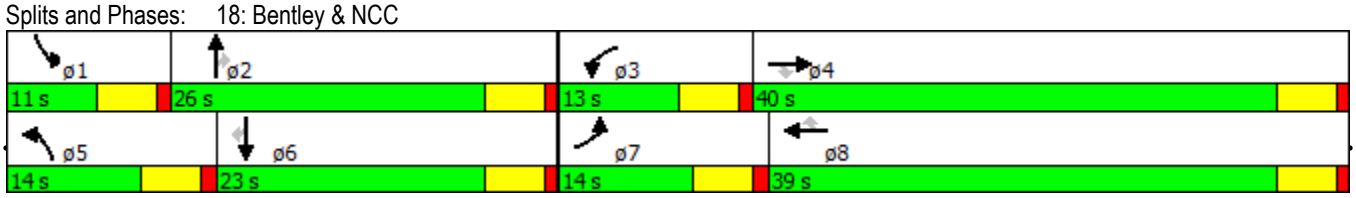
Splits and Phases: 17: Patterson Rd & Crane Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	1050	160	90	1020	20	100	110	70	20	150	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	680		580	770		720	200		300	150		300
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		8000			2444			1526			1244	
Travel Time (s)		99.2			30.3			23.1			18.8	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	14.0	40.0	40.0	13.0	39.0	39.0	14.0	26.0	26.0	11.0	23.0	23.0
Total Split (%)	15.6%	44.4%	44.4%	14.4%	43.3%	43.3%	15.6%	28.9%	28.9%	12.2%	25.6%	25.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 78.8
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 18: Bentley & NCC



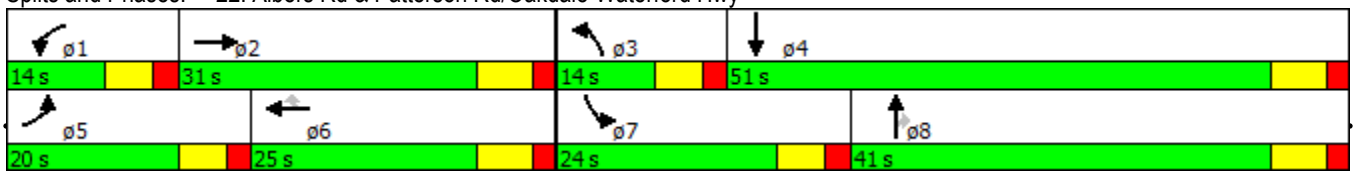
22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	400	120	90	100	140	60	920	200	210	930	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	225		225	225		225	400		300	400		150
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5649			2234			1519			2243	
Travel Time (s)		70.0			27.7			18.8			27.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	14.0	14.5		14.0	14.5	14.5	14.0	14.5	14.5	14.0	14.5	
Total Split (s)	20.0	31.0		14.0	25.0	25.0	14.0	41.0	41.0	24.0	51.0	
Total Split (%)	18.2%	28.2%		12.7%	22.7%	22.7%	12.7%	37.3%	37.3%	21.8%	46.4%	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.5		-2.0	-2.5	-2.5	-2.0	-2.5	0.0	-2.0	-2.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	6.5	4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 103.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Albers Rd & Patterson Rd/Oakdale-Waterford Hwy



Lane Group	EBL	EBR2	WBL	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations										
Volume (vph)	780	190	280	180	20	550	330	120	630	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)						0%			0%	
Storage Length (ft)	500		350		600			600		
Storage Lanes	1		1		1			1		
Taper Length (ft)	120		120		120			120		
Right Turn on Red		No		No			Yes			Yes
Link Speed (mph)						45			45	
Link Distance (ft)						1462			1324	
Travel Time (s)						22.2			20.1	
Confl. Peds. (#/hr)							2			2
Confl. Bikes (#/hr)							2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)						0%			0%	
Shared Lane Traffic (%)										
Turn Type	Prot	Perm	Prot	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		5		1			2			6
Detector Phase	4	5	8	1	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	27.0	19.0	27.0	19.0	19.0	24.0	24.0	19.0	24.0	24.0
Total Split (%)	38.6%	27.1%	38.6%	27.1%	27.1%	34.3%	34.3%	27.1%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 64.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

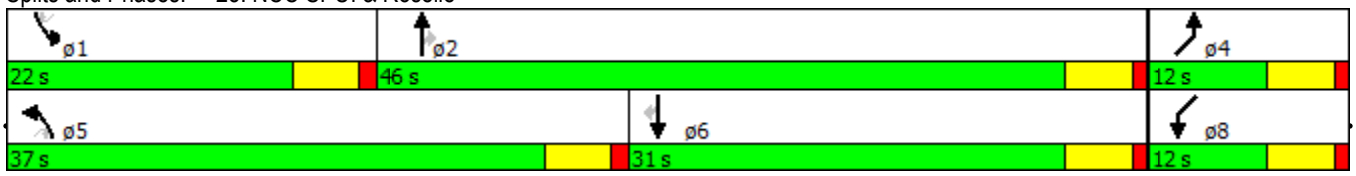
Splits and Phases: 24: Oakdale Rd & NCC SPUI

Lane Group	NBL	NBT	NBR2	SBL	SBT	SBR2	NEL	NER2	SWL	SWR2
Lane Configurations										
Volume (vph)	170	560	270	100	660	50	70	360	110	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%					
Storage Length (ft)	400			550			500		500	
Storage Lanes	1			1			2		2	
Taper Length (ft)	60			60			60		60	
Right Turn on Red			Yes			Yes		No		No
Link Speed (mph)		45			45					
Link Distance (ft)		782			1192					
Travel Time (s)		11.8			18.1					
Confl. Peds. (#/hr)			2			2				
Confl. Bikes (#/hr)			2			2				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)										
Mid-Block Traffic (%)		0%			0%					
Shared Lane Traffic (%)										
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Perm
Protected Phases	5	2		1	6		4		8	
Permitted Phases			2			6		5		1
Detector Phase	5	2	2	1	6	6	4	5	8	1
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	9.0	9.0	9.0
Total Split (s)	37.0	46.0	46.0	22.0	31.0	31.0	12.0	37.0	12.0	22.0
Total Split (%)	46.3%	57.5%	57.5%	27.5%	38.8%	38.8%	15.0%	46.3%	15.0%	27.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag		Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 60.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: NCC SPUI & Roselle

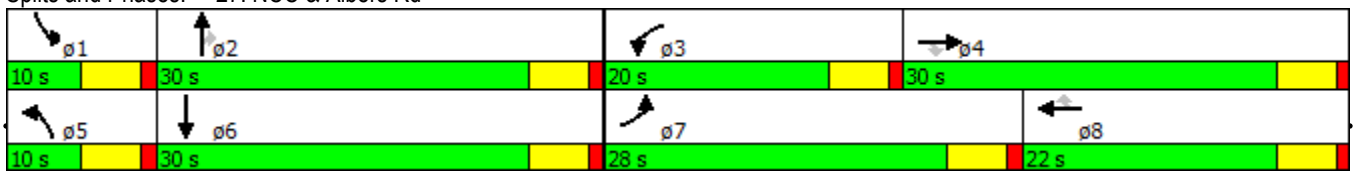


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	720	400	20	180	340	20	20	440	210	20	350	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	920		580	720		580	200		300	200		0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			55	
Link Distance (ft)		1228			3059			2830			1519	
Travel Time (s)		15.2			37.9			64.3			18.8	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			Free
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	
Total Split (s)	28.0	30.0	30.0	20.0	22.0	22.0	10.0	30.0	30.0	10.0	30.0	
Total Split (%)	31.1%	33.3%	33.3%	22.2%	24.4%	24.4%	11.1%	33.3%	33.3%	11.1%	33.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 79.3
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: NCC & Albers Rd

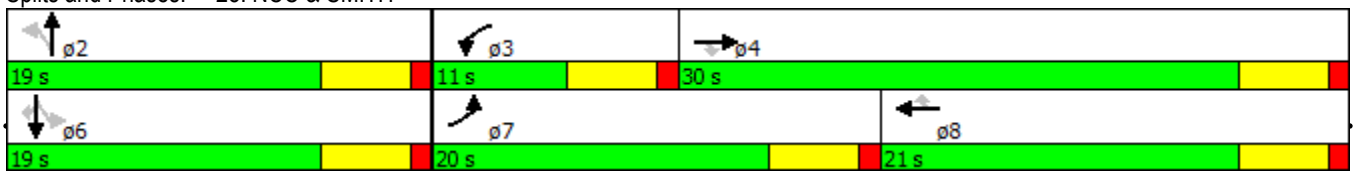


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	430	20	20	330	20	20	30	20	20	60	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	870		670	650		650	0		0	0		630
Storage Lanes	1		1	1		1	0		0	0		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		5417			4096			1366			1125	
Travel Time (s)		67.2			50.8			31.0			25.6	
Confl. Peds. (#/hr)			2			2			2			2
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2			6		6
Detector Phase	7	4	4	3	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	20.0	30.0	30.0	11.0	21.0	21.0	19.0	19.0		19.0	19.0	19.0
Total Split (%)	33.3%	50.0%	50.0%	18.3%	35.0%	35.0%	31.7%	31.7%		31.7%	31.7%	31.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	None

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 42.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 28: NCC & SMITH



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	270	50	320	260	80	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	820		0	0
Storage Lanes		0	0		1	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2790			1209	1665	
Travel Time (s)	34.6			15.0	20.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Yield			Yield	Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	10	130	50	10	50	100	950	50	50	720	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		953			1299			1150			2456	
Travel Time (s)		21.7			29.5			15.7			33.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	16.0	16.0		16.0	16.0		16.0	31.0	31.0	13.0	28.0	28.0
Total Split (%)	26.7%	26.7%		26.7%	26.7%		26.7%	51.7%	51.7%	21.7%	46.7%	46.7%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 42.9
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: SR 108 (McHenry Ave)#2 & Charity

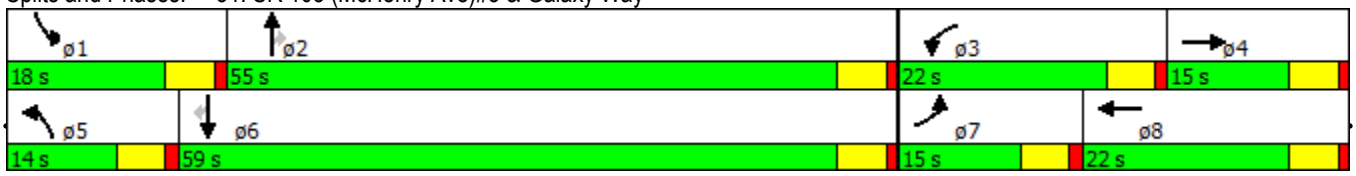
31: SR 108 (McHenry Ave)#3 & Galaxy Way

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	90	190	10	290	50	1170	200	290	790	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		400	450		0
Storage Lanes	1		0	1		0	1		1	2		1
Taper Length (ft)	120			120			120			150		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		495			702			880			820	
Travel Time (s)		11.3			16.0			13.3			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	15.0	15.0		22.0	22.0		14.0	55.0	55.0	18.0	59.0	59.0
Total Split (%)	13.6%	13.6%		20.0%	20.0%		12.7%	50.0%	50.0%	16.4%	53.6%	53.6%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 100.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: SR 108 (McHenry Ave)#3 & Galaxy Way



32: Coffee Rd & Frontage Road North

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	10	50	100	10	50	50	850	100	50	450	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			60			120			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1320			2114			1060			1380	
Travel Time (s)		30.0			48.0			16.1			20.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	16.0	16.0		16.0	16.0		11.0	33.0	33.0	11.0	33.0	33.0
Total Split (%)	26.7%	26.7%		26.7%	26.7%		18.3%	55.0%	55.0%	18.3%	55.0%	55.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 46.4
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 32: Coffee Rd & Frontage Road North

33: Coffee Rd & Frontage Road South

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	50	50	10	100	50	780	50	100	720	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		300
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		819			1151			1312			1052	
Travel Time (s)		18.6			26.2			19.9			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	17.0	17.0		17.0	17.0		11.0	29.0	29.0	14.0	32.0	32.0
Total Split (%)	28.3%	28.3%		28.3%	28.3%		18.3%	48.3%	48.3%	23.3%	53.3%	53.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 49.2
Natural Cycle: 40
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Coffee Rd & Frontage Road South

34: Oakdale Rd & Frontage Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	10	70	60	10	60	110	770	100	100	890	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		0	300		0	300		300	300		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	120			120			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		692			556			411			1462	
Travel Time (s)		15.7			12.6			6.2			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	13.0	13.0		13.0	13.0		15.0	33.0	33.0	14.0	32.0	32.0
Total Split (%)	21.7%	21.7%		21.7%	21.7%		25.0%	55.0%	55.0%	23.3%	53.3%	53.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 50.1
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Oakdale Rd & Frontage Road

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	100	150	850	100	110	1020
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	300	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	120				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		45			45
Link Distance (ft)	1720		734			782
Travel Time (s)	39.1		11.1			11.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Perm	Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases	8	8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	20.0	20.0	20.0		9.0	20.0
Total Split (s)	20.0	20.0	43.0		17.0	60.0
Total Split (%)	25.0%	25.0%	53.8%		21.3%	75.0%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Min		None	Min

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 60.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Roselle & Frontage Road

36: Davis & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	10	10	10	10	200	10	10	240	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		696			740			807			1197	
Travel Time (s)		15.8			16.8			18.3			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

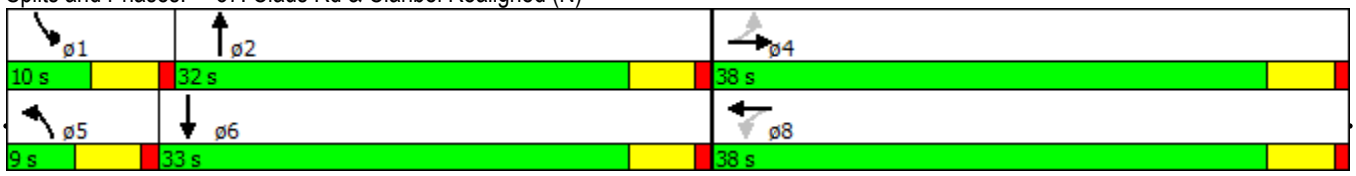
37: Claus Rd & Claribel Realigned (N)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	10	110	310	10	50	30	660	160	50	500	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		0	0		0	450		0	300		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1197			469			1344			1061	
Travel Time (s)		27.2			10.7			20.4			16.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	38.0	38.0		38.0	38.0		9.0	32.0		10.0	33.0	
Total Split (%)	47.5%	47.5%		47.5%	47.5%		11.3%	40.0%		12.5%	41.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 65.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Claus Rd & Claribel Realigned (N)



38: New Claribel Road (S) & Claus Rd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	80	830	80	80	1010
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	300		300	890	
Storage Lanes	1	1		1	2	
Taper Length (ft)	60				120	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		30			55
Link Distance (ft)	529		1924			1267
Travel Time (s)	12.0		43.7			15.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	21.0	21.0	9.0	21.0
Total Split (s)	23.0	23.0	36.0	36.0	11.0	47.0
Total Split (%)	32.9%	32.9%	51.4%	51.4%	15.7%	67.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 48.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 38: New Claribel Road (S) & Claus Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	430	20	20	330	20	20	10	20	20	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	720		720	720		720	300		0	300		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3128			3541			720			1120	
Travel Time (s)		38.8			43.9			16.4			25.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	0	0	2010	580	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	0		1	0	
Taper Length (ft)	60				60	
Link Speed (mph)	30		55			55
Link Distance (ft)	1305		1260			2486
Travel Time (s)	29.7		15.6			30.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	2010	0	0	0	0	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	45	
Link Distance (ft)	2486			1462	745	
Travel Time (s)	30.8			18.1	11.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	0	1530	490	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		30	
Link Distance (ft)		2484	1481		1250	
Travel Time (s)		30.8	18.4		28.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	1530	0	0	0	0	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	3	0		0	0	
Taper Length (ft)	60				60	
Link Speed (mph)	55		55			45
Link Distance (ft)	2484		831			1357
Travel Time (s)	30.8		10.3			20.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Sign Control	Free		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	0	0	0	1300	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			55	55	
Link Distance (ft)	1227			2226	577	
Travel Time (s)	27.9			27.6	7.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	1300	0	0	540
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	60				60	
Link Speed (mph)		55	55		55	
Link Distance (ft)		2288	2226		1058	
Travel Time (s)		28.4	27.6		13.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Sign Control		Free	Free		Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	0	0	0	1800	0	1780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	2
Taper Length (ft)			60		60	
Link Speed (mph)	30			55	55	
Link Distance (ft)	748			1170	1336	
Travel Time (s)	17.0			14.5	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						1610
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	1390	970	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		0	0
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	30	
Link Distance (ft)	2261			2293	1098	
Travel Time (s)	28.0			28.4	25.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	1390	0	0	0	0	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			60		60	
Link Speed (mph)	55			55	55	
Link Distance (ft)	2293			558	1270	
Travel Time (s)	28.4			6.9	15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Sign Control	Free			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	220	219	99.4%	42.5	4.2	D
	Through	80	84	105.5%	26.7	2.2	C
	Right Turn	40	44	109.3%	15.0	2.4	B
	Subtotal	**340**	**347**	**102.0%**	**35.2**	**2.7**	**D**
SB	Left Turn	30	29	96.0%	46.4	5.1	D
	Through	140	141	100.7%	49.0	3.2	D
	Right Turn	100	102	102.4%	33.3	2.5	C
	Subtotal	**270**	**272**	**100.8%**	**42.8**	**2.6**	**D**
EB	Left Turn	70	72	102.7%	56.7	12.0	E
	Through	1,040	1,036	99.6%	25.6	1.3	C
	Right Turn	160	163	101.7%	10.2	1.6	B
	Subtotal	**1,270**	**1,270**	**100.0%**	**25.4**	**1.3**	**C**
WB	Left Turn	90	78	86.7%	47.8	3.5	D
	Through	1,420	1,358	95.6%	30.9	1.3	C
	Right Turn	70	71	101.0%	13.6	0.9	B
	Subtotal	**1,580**	**1,506**	**95.3%**	**30.9**	**1.3**	**C**
Total		**3,460**	**3,396**	**98.1%**	**30.3**	**1.1**	**C**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	220	215	97.9%	33.7	1.8	C
	Through	90	89	99.3%	22.1	2.9	C
	Right Turn	170	173	101.9%	5.9	0.4	A
	Subtotal	**480**	**478**	**99.6%**	**21.5**	**1.0**	**C**
SB	Left Turn	40	40	100.3%	36.3	3.8	D
	Through	110	107	97.5%	36.8	3.6	D
	Right Turn	60	59	98.8%	20.1	3.4	C
	Subtotal	**210**	**207**	**98.4%**	**31.9**	**2.4**	**C**
EB	Left Turn	50	45	90.2%	46.4	9.6	D
	Through	600	603	100.5%	30.4	1.9	C
	Right Turn	460	464	100.9%	29.2	1.5	C
	Subtotal	**1,110**	**1,112**	**100.2%**	**30.5**	**1.5**	**C**
WB	Left Turn	360	344	95.5%	37.3	1.7	D
	Through	1,300	1,231	94.7%	21.4	0.9	C
	Right Turn	30	25	83.3%	6.3	0.7	A
	Subtotal	**1,690**	**1,600**	**94.6%**	**24.6**	**0.9**	**C**
Total		**3,490**	**3,397**	**97.3%**	**26.6**	**0.8**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	40	38	95.5%	60.5	7.6	E
	Through	470	467	99.3%	39.1	2.1	D
	Right Turn	20	20	99.0%	32.4	5.5	C
	Subtotal	**530**	**525**	**99.0%**	**40.4**	**1.8**	**D**
SB	Left Turn	80	79	99.1%	62.1	4.4	E
	Through	580	590	101.6%	56.2	4.0	E
	Right Turn	240	243	101.4%	57.1	6.4	E
	Subtotal	**900**	**912**	**101.3%**	**57.0**	**4.3**	**E**
EB	Left Turn	200	201	100.5%	107.7	28.0	F
	Through	450	450	99.9%	47.2	12.9	D
	Right Turn	70	69	99.1%	38.4	13.2	D
	Subtotal	**720**	**720**	**100.0%**	**63.3**	**16.4**	**E**
WB	Left Turn	20	15	74.0%	117.3	13.7	F
	Through	660	536	81.3%	78.0	1.8	E
	Right Turn	150	124	82.5%	49.2	3.4	D
	Subtotal	**830**	**675**	**81.3%**	**73.6**	**2.2**	**E**
Total		**2,980**	**2,832**	**95.0%**	**59.5**	**4.6**	**E**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	510	506	99.3%	9.2	0.6	A
	Right Turn	140	135	96.4%	0.3	0.1	A
	Subtotal	**650**	**641**	**98.7%**	**7.3**	**0.5**	**A**
SB	Left Turn						
	Through	670	677	101.1%	14.3	1.3	B
	Right Turn						
	Subtotal	**670**	**677**	**101.1%**	**14.3**	**1.3**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	230	190	82.7%	17.5	1.8	B
	Through	20	16	80.5%	5.3	0.5	A
	Right Turn						
	Subtotal	**250**	**206**	**82.5%**	**16.6**	**1.7**	**B**
Total		**1,570**	**1,525**	**97.1%**	**11.7**	**0.6**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	140	134	95.6%	5.6	0.3	A
	Subtotal	**140**	**134**	**95.6%**	**5.6**	**0.3**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	530	533	100.5%	21.1	2.8	C
	Right Turn	20	20	97.5%	11.8	3.3	B
	Subtotal	**550**	**552**	**100.4%**	**20.8**	**2.8**	**C**
WB	Left Turn	230	188	81.8%	275.5	38.9	F
	Through	830	677	81.5%	338.9	34.6	F
	Right Turn						
	Subtotal	**1,060**	**865**	**81.6%**	**325.1**	**35.5**	**F**
Total		**1,750**	**1,551**	**88.6%**	**189.1**	**19.2**	**F**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	130	129	99.2%	124.1	54.1	F
	Through	510	505	99.1%	35.7	1.5	D
	Right Turn	140	136	97.1%	4.4	0.5	A
	Subtotal	**780**	**770**	**98.7%**	**45.5**	**11.3**	**D**
SB	Left Turn	50	50	100.2%	56.2	5.8	E
	Through	530	544	102.6%	37.9	1.2	D
	Right Turn	280	284	101.5%	23.9	3.4	C
	Subtotal	**860**	**878**	**102.1%**	**34.4**	**1.7**	**C**
EB	Left Turn	140	138	98.7%	79.5	19.0	E
	Through	450	446	99.1%	27.0	1.8	C
	Right Turn	160	167	104.1%	5.5	0.6	A
	Subtotal	**750**	**751**	**100.1%**	**32.0**	**3.0**	**C**
WB	Left Turn	290	276	95.1%	123.7	23.0	F
	Through	1,350	1,257	93.1%	217.3	33.3	F
	Right Turn	90	83	92.7%	214.7	32.8	F
	Subtotal	**1,730**	**1,616**	**93.4%**	**201.2**	**31.3**	**F**
Total		**4,120**	**4,015**	**97.4%**	**103.2**	**13.2**	**F**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	490	390	79.6%	512.5	90.6	F
	Through	960	945	98.4%	45.5	7.5	D
	Right Turn	160	162	101.4%	17.2	4.2	B
	Subtotal	**1,610**	**1,497**	**93.0%**	**163.9**	**26.5**	**F**
SB	Left Turn	160	164	102.7%	51.8	2.5	D
	Through	610	611	100.1%	32.6	1.4	C
	Right Turn	130	125	96.1%	21.4	2.2	C
	Subtotal	**900**	**900**	**100.0%**	**34.5**	**1.3**	**C**
EB	Left Turn	260	234	90.0%	379.4	108.8	F
	Through	890	899	101.0%	39.8	1.7	D
	Right Turn	240	242	100.8%	10.3	0.6	B
	Subtotal	**1,390**	**1,375**	**98.9%**	**92.2**	**18.8**	**F**
WB	Left Turn	300	235	78.3%	412.3	25.3	F
	Through	1,920	1,538	80.1%	429.5	21.1	F
	Right Turn	590	447	75.7%	401.8	26.2	F
	Subtotal	**2,810**	**2,220**	**79.0%**	**422.2**	**21.8**	**F**
Total		**6,710**	**5,992**	**89.3%**	**223.7**	**11.0**	**F**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	160	158	98.8%	56.9	7.7	E
	Through	120	124	103.7%	28.5	3.2	C
	Right Turn	130	138	106.2%	1.8	0.1	A
	Subtotal	**410**	**421**	**102.6%**	**30.4**	**3.4**	**C**
SB	Left Turn	30	29	97.3%	57.2	10.8	E
	Through	290	284	97.9%	43.6	3.8	D
	Right Turn	380	391	102.8%	5.8	0.7	A
	Subtotal	**700**	**704**	**100.5%**	**23.2**	**2.5**	**C**
EB	Left Turn	80	84	104.4%	76.1	34.8	E
	Through	470	466	99.2%	24.3	1.8	C
	Right Turn	260	261	100.3%	6.3	0.3	A
	Subtotal	**810**	**811**	**100.1%**	**24.1**	**4.7**	**C**
WB	Left Turn	110	113	102.3%	52.4	4.7	D
	Through	1,200	1,210	100.9%	39.0	3.8	D
	Right Turn	30	32	107.3%	15.6	3.0	B
	Subtotal	**1,340**	**1,355**	**101.1%**	**39.6**	**3.6**	**D**
Total		**3,260**	**3,290**	**100.9%**	**31.1**	**2.4**	**C**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	460	442	96.0%	70.5	13.6	E
	Through	230	233	101.2%	25.0	1.7	C
	Right Turn	150	152	101.0%	13.0	1.7	B
	Subtotal	**840**	**826**	**98.3%**	**47.2**	**8.0**	**D**
SB	Left Turn	60	57	95.3%	56.8	4.3	E
	Through	300	296	98.6%	38.3	6.1	D
	Right Turn	560	549	98.0%	116.4	55.0	F
	Subtotal	**920**	**902**	**98.0%**	**87.2**	**35.6**	**F**
EB	Left Turn	150	152	101.2%	76.9	7.2	E
	Through	720	716	99.4%	39.9	1.6	D
	Right Turn	250	245	97.9%	7.7	0.6	A
	Subtotal	**1,120**	**1,112**	**99.3%**	**37.9**	**1.5**	**D**
WB	Left Turn	220	211	95.7%	179.9	48.4	F
	Through	1,800	1,700	94.5%	175.8	42.9	F
	Right Turn	60	58	97.0%	155.4	40.8	F
	Subtotal	**2,080**	**1,969**	**94.7%**	**175.6**	**43.3**	**F**
Total		**4,960**	**4,809**	**97.0%**	**105.1**	**17.5**	**F**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	140	142	101.3%	51.1	4.4	D
	Through	90	85	94.4%	33.8	2.7	C
	Right Turn	220	227	103.4%	40.7	3.9	D
	Subtotal	**450**	**454**	**100.9%**	**42.7**	**3.0**	**D**
SB	Left Turn	70	70	100.4%	58.6	3.6	E
	Through	140	142	101.7%	43.7	3.2	D
	Right Turn	120	125	104.5%	12.8	1.4	B
	Subtotal	**330**	**338**	**102.5%**	**35.4**	**1.8**	**D**
EB	Left Turn	90	88	98.1%	57.7	4.3	E
	Through	480	483	100.5%	24.6	1.7	C
	Right Turn	100	94	93.9%	17.7	2.0	B
	Subtotal	**670**	**665**	**99.2%**	**28.0**	**1.6**	**C**
WB	Left Turn	260	255	98.2%	50.7	3.0	D
	Through	650	655	100.7%	22.7	1.2	C
	Right Turn	50	49	98.6%	18.3	2.7	B
	Subtotal	**960**	**959**	**99.9%**	**30.0**	**1.6**	**C**
Total		**2,410**	**2,416**	**100.3%**	**32.6**	**1.1**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	90	92	102.0%	101.0	35.5	F
	Through	380	380	100.1%	38.6	3.3	D
	Right Turn	150	149	99.0%	11.8	3.2	B
	Subtotal	**620**	**621**	**100.1%**	**41.8**	**9.4**	**D**
SB	Left Turn	100	103	102.6%	79.3	11.8	E
	Through	520	514	98.9%	53.2	9.6	D
	Right Turn	220	226	102.8%	13.0	1.6	B
	Subtotal	**840**	**843**	**100.3%**	**45.6**	**7.3**	**D**
EB	Left Turn	110	108	97.8%	61.2	5.9	E
	Through	440	439	99.7%	47.4	3.1	D
	Right Turn	60	61	102.2%	38.2	3.3	D
	Subtotal	**610**	**608**	**99.6%**	**49.0**	**2.4**	**D**
WB	Left Turn	250	248	99.1%	63.5	10.1	E
	Through	700	696	99.4%	38.3	2.6	D
	Right Turn	70	69	98.1%	5.2	0.3	A
	Subtotal	**1,020**	**1,012**	**99.2%**	**42.3**	**3.8**	**D**
Total		**3,090**	**3,083**	**99.8%**	**44.5**	**3.6**	**D**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	800	802	100.3%	39.5	3.0	D
	Through	380	382	100.6%	12.5	1.2	B
	Right Turn	40	41	101.8%	5.8	2.1	A
	Subtotal	**1,220**	**1,225**	**100.4%**	**30.0**	**2.1**	**C**
SB	Left Turn	30	31	104.0%	56.7	11.5	E
	Through	670	667	99.5%	48.4	6.0	D
	Right Turn	450	453	100.6%	32.3	6.6	C
	Subtotal	**1,150**	**1,151**	**100.1%**	**42.3**	**4.9**	**D**
EB	Left Turn	170	176	103.4%	91.4	18.2	F
	Through	450	448	99.6%	36.0	1.4	D
	Right Turn	300	295	98.4%	3.7	0.1	A
	Subtotal	**920**	**919**	**99.9%**	**36.3**	**3.4**	**D**
WB	Left Turn	30	33	111.3%	57.9	6.1	E
	Through	850	837	98.4%	64.5	3.8	E
	Right Turn	30	32	105.3%	7.6	0.7	A
	Subtotal	**910**	**902**	**99.1%**	**62.2**	**3.6**	**E**
Total		**4,200**	**4,197**	**99.9%**	**41.7**	**2.6**	**D**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	67	95.3%	53.8	12.3	D
	Through	250	250	99.9%	75.5	14.5	E
	Right Turn	50	54	108.6%	66.5	12.6	E
	Subtotal	**370**	**371**	**100.2%**	**70.3**	**13.4**	**E**
SB	Left Turn	180	177	98.1%	59.7	11.6	E
	Through	200	199	99.6%	60.5	10.3	E
	Right Turn	160	162	101.1%	25.0	9.7	C
	Subtotal	**540**	**538**	**99.5%**	**49.6**	**10.6**	**D**
EB	Left Turn	130	125	96.1%	120.7	54.4	F
	Through	540	538	99.6%	79.4	39.7	E
	Right Turn	40	46	115.8%	70.4	41.8	E
	Subtotal	**710**	**709**	**99.8%**	**86.4**	**41.0**	**F**
WB	Left Turn	40	33	82.8%	258.5	69.9	F
	Through	510	487	95.5%	218.5	68.4	F
	Right Turn	260	240	92.5%	204.9	69.6	F
	Subtotal	**810**	**761**	**93.9%**	**215.9**	**68.5**	**F**
Total		**2,430**	**2,378**	**97.8%**	**117.1**	**26.6**	**F**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	130	113	87.2%	319.0	105.1	F
	Through	360	331	92.0%	110.2	86.0	F
	Right Turn	250	247	98.7%	16.9	12.6	B
	Subtotal	**740**	**692**	**93.4%**	**111.0**	**60.9**	**F**
SB	Left Turn	80	74	92.9%	266.8	105.9	F
	Through	400	371	92.8%	247.7	103.0	F
	Right Turn	90	82	90.9%	243.1	101.5	F
	Subtotal	**570**	**527**	**92.5%**	**250.0**	**102.5**	**F**
EB	Left Turn	40	27	68.5%	459.9	41.9	F
	Through	400	317	79.3%	478.1	32.2	F
	Right Turn	160	122	76.4%	470.7	30.1	F
	Subtotal	**600**	**467**	**77.8%**	**475.3**	**30.9**	**F**
WB	Left Turn	340	281	82.7%	354.8	63.3	F
	Through	420	357	84.9%	258.4	64.3	F
	Right Turn	90	77	86.0%	248.3	64.3	F
	Subtotal	**850**	**715**	**84.1%**	**295.2**	**64.2**	**F**
Total		**2,760**	**2,401**	**87.0%**	**266.4**	**31.4**	**F**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	190	187	98.3%	27.9	1.9	C
	Through						
	Right Turn	270	278	102.9%	9.3	1.2	A
	Subtotal	**460**	**465**	**101.0%**	**16.8**	**1.6**	**B**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	550	562	102.1%	18.8	1.4	B
	Right Turn	160	159	99.6%	12.2	1.6	B
	Subtotal	**710**	**721**	**101.5%**	**17.3**	**1.4**	**B**
WB	Left Turn	350	359	102.6%	27.0	1.3	C
	Through	660	661	100.2%	4.7	0.4	A
	Right Turn						
	Subtotal	**1,010**	**1,021**	**101.0%**	**12.5**	**0.7**	**B**
Total		**2,180**	**2,206**	**101.2%**	**15.0**	**0.9**	**B**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	29	96.7%	90.2	49.6	F
	Through	500	509	101.7%	94.4	55.5	F
	Right Turn	360	362	100.4%	94.1	58.8	F
	Subtotal	**890**	**899**	**101.0%**	**94.2**	**56.6**	**F**
SB	Left Turn	40	41	102.3%	63.5	10.4	E
	Through	610	617	101.2%	54.2	18.5	D
	Right Turn	150	144	96.3%	45.7	13.2	D
	Subtotal	**800**	**803**	**100.3%**	**53.2**	**17.0**	**D**
EB	Left Turn	150	151	100.6%	67.2	13.0	E
	Through	320	311	97.2%	56.4	11.6	E
	Right Turn	40	44	109.8%	28.5	11.3	C
	Subtotal	**510**	**506**	**99.2%**	**57.3**	**11.8**	**E**
WB	Left Turn	460	459	99.8%	43.6	2.3	D
	Through	410	402	98.0%	34.9	2.0	C
	Right Turn	50	51	102.2%	15.5	1.3	B
	Subtotal	**920**	**912**	**99.1%**	**38.2**	**1.7**	**D**
Total		**3,120**	**3,119**	**100.0%**	**61.4**	**15.3**	**E**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	100	102	102.4%	18.4	0.9	B
	Through						
	Right Turn	450	462	102.8%	12.4	1.5	B
	Subtotal	**550**	**565**	**102.7%**	**13.5**	**1.3**	**B**
EB	Left Turn	260	268	103.2%	24.9	1.6	C
	Through	390	398	102.1%	10.4	0.8	B
	Right Turn						
	Subtotal	**650**	**666**	**102.5%**	**16.3**	**0.9**	**B**
WB	Left Turn						
	Through	220	220	99.9%	30.5	1.1	C
	Right Turn	80	80	99.6%	18.2	1.2	B
	Subtotal	**300**	**299**	**99.8%**	**27.2**	**0.8**	**C**
Total		**1,500**	**1,531**	**102.0%**	**17.4**	**0.9**	**B**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	30	98.7%	21.2	6.0	C
	Through	40	35	87.3%	21.9	3.1	C
	Right Turn	30	33	110.3%	8.5	2.1	A
	Subtotal	**100**	**98**	**97.6%**	**17.1**	**2.3**	**C**
SB	Left Turn	50	48	95.0%	24.9	3.8	C
	Through	40	41	103.0%	26.5	7.8	D
	Right Turn	30	32	108.0%	12.1	5.7	B
	Subtotal	**120**	**121**	**100.9%**	**21.9**	**4.8**	**C**
EB	Left Turn	100	102	102.1%	7.7	0.5	A
	Through	340	347	101.9%	5.3	0.4	A
	Right Turn	30	31	102.0%	3.8	1.5	A
	Subtotal	**470**	**479**	**102.0%**	**5.7**	**0.4**	**A**
WB	Left Turn	30	26	86.0%	3.5	0.9	A
	Through	420	420	100.1%	3.7	0.3	A
	Right Turn	50	53	105.2%	1.5	0.4	A
	Subtotal	**500**	**499**	**99.8%**	**3.5**	**0.3**	**A**
Total		**1,190**	**1,197**	**100.6%**	**7.4**	**0.6**	**A**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	111	101.1%	26.6	1.6	C
	Through	70	68	96.9%	18.0	1.7	B
	Right Turn	40	42	104.5%	10.8	2.4	B
	Subtotal	**220**	**221**	**100.4%**	**21.0**	**1.1**	**C**
SB	Left Turn	130	130	100.2%	23.9	2.1	C
	Through	80	83	104.1%	19.8	2.0	B
	Right Turn	150	152	101.4%	6.9	1.0	A
	Subtotal	**360**	**366**	**101.6%**	**15.9**	**1.4**	**B**
EB	Left Turn	80	76	95.0%	34.7	4.5	C
	Through	730	727	99.6%	14.4	0.7	B
	Right Turn	60	56	93.8%	10.5	1.5	B
	Subtotal	**870**	**860**	**98.8%**	**16.0**	**1.1**	**B**
WB	Left Turn	60	61	101.3%	39.5	3.1	D
	Through	620	622	100.4%	17.8	1.4	B
	Right Turn	80	84	105.5%	10.5	1.5	B
	Subtotal	**760**	**768**	**101.0%**	**18.7**	**1.3**	**B**
Total		**2,210**	**2,214**	**100.2%**	**17.4**	**0.9**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	110	99.5%	59.9	7.1	E
	Through	330	328	99.2%	59.1	6.7	E
	Right Turn	200	205	102.7%	15.2	1.4	B
	Subtotal	**640**	**642**	**100.4%**	**45.3**	**5.2**	**D**
SB	Left Turn	430	391	91.0%	250.6	105.8	F
	Through	380	357	94.0%	206.1	91.3	F
	Right Turn	90	93	103.4%	196.0	84.7	F
	Subtotal	**900**	**842**	**93.5%**	**225.6**	**96.7**	**F**
EB	Left Turn	100	78	77.9%	421.7	55.0	F
	Through	680	532	78.2%	314.3	48.5	F
	Right Turn	90	73	81.4%	312.8	48.4	F
	Subtotal	**870**	**683**	**78.5%**	**326.5**	**49.6**	**F**
WB	Left Turn	240	221	92.2%	299.1	89.9	F
	Through	520	478	91.9%	190.1	67.9	F
	Right Turn	420	396	94.2%	80.6	53.6	F
	Subtotal	**1,180**	**1,095**	**92.8%**	**172.6**	**66.1**	**F**
Total		**3,590**	**3,262**	**90.9%**	**192.7**	**30.5**	**F**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	280	278	99.1%	50.4	5.3	D
	Through	120	123	102.8%	26.3	1.6	C
	Right Turn	100	105	104.8%	9.7	1.3	A
	Subtotal	**500**	**506**	**101.1%**	**36.1**	**3.2**	**D**
SB	Left Turn	50	51	101.2%	41.9	1.8	D
	Through	160	169	105.5%	33.0	2.1	C
	Right Turn	140	146	104.3%	15.6	1.4	B
	Subtotal	**350**	**365**	**104.4%**	**27.3**	**1.4**	**C**
EB	Left Turn	70	68	96.4%	42.6	2.4	D
	Through	750	761	101.5%	28.8	2.4	C
	Right Turn	180	174	96.9%	23.9	3.6	C
	Subtotal	**1,000**	**1,003**	**100.3%**	**28.9**	**2.4**	**C**
WB	Left Turn	170	170	100.1%	55.0	8.6	D
	Through	790	782	99.0%	21.6	0.9	C
	Right Turn	50	50	99.0%	17.2	2.5	B
	Subtotal	**1,010**	**1,002**	**99.2%**	**27.1**	**1.9**	**C**
Total		**2,860**	**2,876**	**100.6%**	**29.4**	**1.4**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	170	170	100.1%	99.9	33.4	F
	Through	720	723	100.4%	38.7	4.2	D
	Right Turn	20	19	96.0%	22.8	8.0	C
	Subtotal	**910**	**912**	**100.2%**	**49.8**	**9.4**	**D**
SB	Left Turn	110	111	100.6%	59.4	7.8	E
	Through	860	848	98.7%	53.2	5.9	D
	Right Turn	120	115	96.1%	44.1	5.5	D
	Subtotal	**1,090**	**1,074**	**98.6%**	**52.8**	**5.5**	**D**
EB	Left Turn	200	204	101.8%	87.3	24.6	F
	Through	50	48	95.0%	49.8	10.6	D
	Right Turn	40	38	94.5%	17.0	10.3	B
	Subtotal	**290**	**289**	**99.6%**	**72.0**	**20.7**	**E**
WB	Left Turn	30	31	103.7%	52.7	7.3	D
	Through	240	239	99.5%	57.7	9.7	E
	Right Turn	160	163	102.0%	17.6	4.9	B
	Subtotal	**430**	**433**	**100.7%**	**42.2**	**7.3**	**D**
Total		**2,720**	**2,708**	**99.6%**	**52.3**	**6.2**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	120	118	98.5%	50.0	3.9	D
	Through	600	608	101.3%	26.1	1.2	C
	Right Turn	40	43	107.0%	18.1	2.9	B
	Subtotal	**760**	**769**	**101.2%**	**29.3**	**1.5**	**C**
SB	Left Turn	30	29	97.7%	52.4	4.0	D
	Through	650	634	97.5%	35.6	1.1	D
	Right Turn	190	192	101.1%	9.7	0.7	A
	Subtotal	**870**	**855**	**98.3%**	**30.4**	**0.9**	**C**
EB	Left Turn	240	245	101.9%	44.2	3.0	D
	Through	80	84	104.4%	29.1	3.6	C
	Right Turn	100	104	104.0%	8.3	1.1	A
	Subtotal	**420**	**432**	**102.9%**	**32.7**	**2.5**	**C**
WB	Left Turn	40	39	97.8%	48.3	5.0	D
	Through	190	189	99.3%	48.7	4.9	D
	Right Turn	30	27	89.7%	32.9	4.3	C
	Subtotal	**260**	**255**	**98.0%**	**47.0**	**4.4**	**D**
Total		**2,310**	**2,311**	**100.0%**	**32.3**	**1.2**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Queue Length | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	152	249	288	0	0
	Through	2,428	59	120	154	0	0
	Right Turn	2,428	59	120	154	0	0
SB	Left Turn	300	25	63	87	0	0
	Through	2,373	152	264	310	1	0
	Right Turn	2,373	152	264	310	1	0
EB	Left Turn	530	70	143	179	0	0
	Through	3,295	196	299	342	0	0
	Right Turn	410	49	100	137	0	0
WB	Left Turn	580	67	130	152	0	0
	Through	2,546	216	328	353	0	0
	Right Turn	530	26	62	75	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	3,678	129	213	242	0	0
	Through	3,678	44	94	127	0	0
	Right Turn	400	42	86	121	0	0
SB	Left Turn	300	32	73	100	0	0
	Through	3,952	94	175	220	0	0
	Right Turn	3,952	94	175	220	0	0
EB	Left Turn	715	39	97	120	0	0
	Through	2,546	108	356	438	0	0
	Right Turn	355	174	288	329	0	0
WB	Left Turn	660	112	177	204	0	0
	Through	3,623	164	259	291	0	0
	Right Turn	415	5	22	43	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	45	115	**198**	0	0
	Through	464	170	271	310	7	0
	Right Turn	464	159	259	302	0	0
SB	Left Turn	290	109	268	**349**	0	0
	Through	5,159	296	474	518	11	0
	Right Turn	5,159	345	516	549	0	0
EB	Left Turn	250	244	**358**	**310**	20	0
	Through	5,459	403	829	884	14	0
	Right Turn	5,459	403	829	884	14	0
WB	Left Turn	90	28	**97**	**132**	1	0
	Through	491	**496**	**505**	**506**	62	45
	Right Turn	160	141	**290**	**220**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Queue Length | **AM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	102	182	220	0	0
	Right Turn						
SB	Left Turn						
	Through	464	124	259	294	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	93	164	193	0	0
	Through						
	Right Turn	672	93	164	193	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	28	61	79	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	210	385	425	0	0
	Right Turn	491	210	385	425	0	0
WB	Left Turn	530	487	**825**	**590**	0	0
	Through	3,699	3074	**4585**	**3751**	57	47
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	260	169	**301**	**306**	10	0
	Through	1,947	203	349	391	1	0
	Right Turn	1,947	38	77	104	0	0
SB	Left Turn	420	52	107	128	0	0
	Through	520	187	279	312	0	0
	Right Turn	535	143	236	261	0	0
EB	Left Turn	775	83	164	184	0	0
	Through	1,459	118	203	243	0	0
	Right Turn	660	47	94	122	0	0
WB	Left Turn	975	648	**1390**	954	0	0
	Through	2,637	1532	**2840**	2342	34	2
	Right Turn	2,637	1542	**2841**	2371	0	2

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Queue Length | **AM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	**284**	**287**	**285**	79	0
	Through	3,853	2070	3723	3299	12	1
	Right Turn	200	97	**244**	**260**	0	0
SB	Left Turn	500	101	166	185	0	0
	Through	1,822	177	257	284	0	0
	Right Turn	1,822	131	230	255	0	0
EB	Left Turn						
	Through	4,930	480	1083	940	0	0
	Right Turn						
WB	Left Turn	300	**660**	**479**	**360**	0	0
	Through	6,010	3116	4278	3563	62	60
	Right Turn	350	**405**	**461**	**410**	4	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	260	130	219	248	1	0
	Through	1,530	77	158	200	0	0
	Right Turn						
SB	Left Turn	110	39	**113**	**159**	0	0
	Through	1,977	194	333	394	30	0
	Right Turn	260	26	171	256	0	0
EB	Left Turn	320	95	203	211	1	0
	Through	2,480	118	206	230	0	0
	Right Turn						
WB	Left Turn	420	107	243	368	0	0
	Through	2,632	317	516	579	19	0
	Right Turn	240	26	163	**270**	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	244	**346**	**349**	4	0
	Through	1,262	107	292	331	0	0
	Right Turn	1,262	98	197	276	0	0
SB	Left Turn	300	54	111	140	0	0
	Through	1,270	612	1180	1025	0	4
	Right Turn	300	**344**	**406**	**360**	55	0
EB	Left Turn	300	110	195	240	0	0
	Through	1,407	227	322	358	1	0
	Right Turn	300	54	107	135	0	0
WB	Left Turn	300	279	**436**	**360**	4	0
	Through	3,308	1142	1923	1754	64	0
	Right Turn	3,308	1013	1718	1574	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Queue Length | **AM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	119	**202**	**230**	1	0
	Through	2,570	64	144	208	0	0
	Right Turn	2,570	160	270	317	0	0
SB	Left Turn	150	75	**151**	**186**	1	0
	Through	2,170	120	248	330	27	0
	Right Turn	75	70	**142**	**135**	2	0
EB	Left Turn	525	86	154	177	0	0
	Through	2,722	139	222	250	0	0
	Right Turn	2,722	147	235	266	0	0
WB	Left Turn	625	114	175	193	0	0
	Through	3,227	142	236	282	0	0
	Right Turn	3,227	167	268	317	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	170	120	**228**	**230**	7	0
	Through	1,580	249	440	537	19	0
	Right Turn	240	88	**245**	**299**	0	0
SB	Left Turn	315	146	**336**	**363**	0	0
	Through	3,994	377	620	646	17	0
	Right Turn	3,994	81	172	246	0	0
EB	Left Turn	410	98	184	229	0	0
	Through	2,526	162	269	306	0	0
	Right Turn	2,526	178	281	309	0	0
WB	Left Turn	310	213	**342**	**356**	4	0
	Through	1,889	224	358	442	1	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	264	377	427	0	0
	Through	2,052	83	154	192	0	0
	Right Turn	2,052	63	131	171	0	0
SB	Left Turn	300	31	99	165	0	0
	Through	2,174	242	499	645	3	0
	Right Turn	300	190	**346**	**349**	4	0
EB	Left Turn	1,376	123	203	212	0	0
	Through	1,376	148	218	249	0	0
	Right Turn						
WB	Left Turn	300	46	147	295	0	0
	Through	1,274	291	392	430	8	0
	Right Turn	300	17	45	54	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Queue Length | **AM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	111	**287**	**310**	0	0
	Through	1,227	357	651	731	31	0
	Right Turn	1,227	357	651	731	31	0
SB	Left Turn	175	166	**276**	**235**	11	0
	Through	1,669	335	730	876	38	0
	Right Turn	100	**114**	**202**	**160**	2	0
EB	Left Turn	3,220	184	486	537	0	0
	Through	3,220	521	1063	964	0	0
	Right Turn	3,220	521	1063	964	0	0
WB	Left Turn	75	47	**117**	**134**	7	0
	Through	3,356	1790	3210	2770	59	6
	Right Turn	150	**176**	**269**	**210**	4	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	289	**429**	**350**	48	0
	Through	2,312	660	1675	1425	7	1
	Right Turn	2,312	239	1094	978	0	0
SB	Left Turn	300	213	**438**	**360**	0	0
	Through	2,478	1257	2386	1917	64	8
	Right Turn	2,478	1257	2386	1917	64	8
EB	Left Turn	300	107	**348**	**360**	0	0
	Through	2,395	2247	**2868**	**2448**	73	71
	Right Turn	2,395	2247	**2868**	**2448**	73	71
WB	Left Turn	300	**358**	**372**	**360**	66	0
	Through	2,598	2106	**3304**	**2631**	4	48
	Right Turn	2,598	2106	**3304**	**2631**	4	48

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	96	163	195	1	0
	Through						
	Right Turn	150	68	125	**164**	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	138	214	244	0	0
	Right Turn	300	136	210	233	0	0
WB	Left Turn	400	177	284	324	0	0
	Through	873	52	98	115	0	0
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Queue Length | **AM Peak Hour**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	62	221	**290**	0	0
	Through	2,150	453	949	798	36	0
	Right Turn	2,150	508	1026	893	0	0
SB	Left Turn	250	55	173	**271**	0	0
	Through	2,396	271	485	504	15	0
	Right Turn	2,396	287	498	512	0	0
EB	Left Turn	150	146	**243**	**210**	11	0
	Through	2,149	302	599	650	49	0
	Right Turn	75	47	**135**	**135**	0	0
WB	Left Turn	300	192	300	**358**	0	0
	Through	2,758	220	385	497	37	0
	Right Turn	75	39	**118**	**135**	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn	1,909	51	103	121	0	0
	Through						
	Right Turn	300	120	210	259	0	0
EB	Left Turn	300	148	250	**307**	0	0
	Through	1,991	89	190	265	0	0
	Right Turn						
WB	Left Turn						
	Through	5,348	157	264	298	0	0
	Right Turn	5,348	157	264	298	0	0

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,498	46	95	131	23	0
	Through	1,498	46	95	131	23	0
	Right Turn	20	**26**	**59**	**64**	4	0
SB	Left Turn	1,216	57	122	166	30	0
	Through	1,216	57	122	166	30	0
	Right Turn	20	**25**	**59**	**58**	4	0
EB	Left Turn	2,720	49	127	198	0	0
	Through	2,720	49	127	198	0	0
	Right Turn	2,720	49	127	198	0	0
WB	Left Turn	2,487	10	40	75	0	0
	Through	2,487	10	40	75	0	0
	Right Turn	2,487	10	40	75	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Queue Length | **AM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	65	120	153	0	0
	Through	1,264	53	98	113	0	0
	Right Turn	1,264	53	98	113	0	0
SB	Left Turn	100	65	**119**	**138**	3	0
	Through	1,626	44	100	143	3	0
	Right Turn	75	50	**90**	**116**	1	0
EB	Left Turn	250	47	95	117	0	0
	Through	1,565	114	201	252	0	0
	Right Turn	1,565	136	226	252	0	0
WB	Left Turn	250	46	88	104	0	0
	Through	2,560	159	253	286	1	0
	Right Turn	300	105	210	262	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,934	214	342	403	3	0
	Through						
	Right Turn						
SB	Left Turn	5,862	1245	2225	1865	0	0
	Through	5,862	1245	2225	1865	0	0
	Right Turn	5,862	1124	2127	1739	0	0
EB	Left Turn	50	**98**	**133**	**110**	79	0
	Through	2,671	2477	**3370**	**2724**	38	65
	Right Turn	200	**256**	**276**	**260**	37	0
WB	Left Turn	300	**349**	**400**	**360**	49	0
	Through						
	Right Turn	2,545	1724	**3095**	2336	23	18

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	118	181	184	0	0
	Through	1,873	75	143	177	21	0
	Right Turn	50	**53**	**103**	**109**	4	0
SB	Left Turn	100	48	**109**	**142**	0	0
	Through	2,914	107	193	240	12	0
	Right Turn	100	72	**142**	**156**	1	0
EB	Left Turn	250	56	153	228	0	0
	Through	1,994	231	363	404	6	0
	Right Turn	1,994	241	371	409	0	0
WB	Left Turn	200	124	**221**	**252**	3	0
	Through	2,690	168	290	334	3	0
	Right Turn	2,690	188	306	361	0	0

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **2042 No Project**
Queue Length **AM Peak Hour**
Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	217	**402**	**425**	4	0
	Through	1,498	297	592	654	3	0
	Right Turn	300	224	**350**	**357**	1	0
SB	Left Turn	400	131	309	**410**	0	0
	Through	1,981	351	539	573	6	0
	Right Turn	1,981	350	534	563	0	0
EB	Left Turn	225	212	**318**	**284**	22	0
	Through	5,603	137	447	476	0	0
	Right Turn	225	24	63	70	0	0
WB	Left Turn	225	42	130	198	0	0
	Through	2,237	231	446	517	12	0
	Right Turn	225	109	**256**	**284**	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	104	192	228	0	0
	Through	1,326	175	282	314	0	0
	Right Turn	1,326	162	276	306	0	0
SB	Left Turn	350	32	82	98	0	0
	Through	1,404	231	346	400	1	0
	Right Turn	350	65	121	167	0	0
EB	Left Turn	225	169	**268**	**280**	4	0
	Through	1,997	59	178	301	0	0
	Right Turn	225	32	78	107	0	0
WB	Left Turn	175	47	125	**194**	0	0
	Through	2,609	156	267	315	8	0
	Right Turn	2,609	156	267	315	8	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	160	157	98.1%	45.0	2.5	D
	Through	110	112	101.5%	45.0	6.9	D
	Right Turn	160	163	102.1%	30.8	6.8	C
	Subtotal	**430**	**432**	**100.5%**	**39.6**	**4.8**	**D**
SB	Left Turn	120	119	98.8%	47.2	7.0	D
	Through	90	90	99.8%	39.3	2.1	D
	Right Turn	30	31	104.3%	22.8	5.0	C
	Subtotal	**240**	**240**	**99.8%**	**41.2**	**3.7**	**D**
EB	Left Turn	60	61	101.0%	57.5	4.1	E
	Through	1,500	1,494	99.6%	23.5	1.9	C
	Right Turn	270	271	100.5%	10.1	0.7	B
	Subtotal	**1,830**	**1,826**	**99.8%**	**22.7**	**1.5**	**C**
WB	Left Turn	60	56	93.7%	55.8	8.8	E
	Through	1,640	1,521	92.7%	27.4	1.4	C
	Right Turn	60	57	95.7%	13.8	1.4	B
	Subtotal	**1,760**	**1,634**	**92.9%**	**28.0**	**1.7**	**C**
Total		**4,260**	**4,132**	**97.0%**	**27.6**	**1.5**	**C**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	630	550	87.3%	355.5	59.0	F
	Through	220	214	97.3%	72.6	23.9	E
	Right Turn	320	316	98.6%	59.7	22.0	E
	Subtotal	**1,170**	**1,080**	**92.3%**	**213.0**	**39.0**	**F**
SB	Left Turn	130	124	95.5%	100.7	56.1	F
	Through	210	207	98.7%	181.6	73.9	F
	Right Turn	40	40	99.3%	165.6	74.3	F
	Subtotal	**380**	**371**	**97.7%**	**153.0**	**67.9**	**F**
EB	Left Turn	80	77	96.4%	143.4	33.9	F
	Through	1,270	1,178	92.8%	224.9	56.0	F
	Right Turn	430	410	95.4%	156.1	55.0	F
	Subtotal	**1,780**	**1,666**	**93.6%**	**204.3**	**54.6**	**F**
WB	Left Turn	380	327	86.2%	282.9	109.1	F
	Through	1,090	1,051	96.4%	45.1	5.7	D
	Right Turn	50	50	99.0%	10.6	2.6	B
	Subtotal	**1,520**	**1,427**	**93.9%**	**98.6**	**26.4**	**F**
Total		**4,850**	**4,544**	**93.7%**	**168.8**	**23.7**	**F**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	50	51	101.2%	62.5	6.0	E
	Through	640	634	99.1%	45.6	2.6	D
	Right Turn	20	23	116.0%	37.2	6.1	D
	Subtotal	**710**	**708**	**99.7%**	**46.5**	**2.5**	**D**
SB	Left Turn	300	241	80.2%	474.1	134.0	F
	Through	650	641	98.6%	58.3	7.2	E
	Right Turn	300	292	97.2%	53.3	6.9	D
	Subtotal	**1,250**	**1,173**	**93.8%**	**141.7**	**25.9**	**F**
EB	Left Turn	210	192	91.2%	301.6	129.6	F
	Through	470	436	92.7%	209.1	128.9	F
	Right Turn	40	36	88.8%	203.8	129.3	F
	Subtotal	**720**	**663**	**92.1%**	**235.7**	**130.5**	**F**
WB	Left Turn	20	17	84.0%	135.0	14.3	F
	Through	500	450	89.9%	96.8	2.7	F
	Right Turn	120	112	92.9%	58.2	3.7	E
	Subtotal	**640**	**578**	**90.3%**	**90.5**	**3.1**	**F**
Total		**3,320**	**3,122**	**94.0%**	**129.4**	**24.3**	**F**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	690	693	100.5%	10.4	0.9	B
	Right Turn	360	354	98.4%	1.0	0.1	A
	Subtotal	**1,050**	**1,048**	**99.8%**	**7.2**	**0.6**	**A**
SB	Left Turn						
	Through	710	693	97.5%	13.3	1.0	B
	Right Turn						
	Subtotal	**710**	**693**	**97.5%**	**13.3**	**1.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	140	131	93.7%	22.5	3.2	C
	Through	20	16	78.0%	6.2	1.3	A
	Right Turn						
	Subtotal	**160**	**147**	**91.8%**	**20.8**	**2.9**	**C**
Total		**1,920**	**1,887**	**98.3%**	**10.5**	**0.6**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	360	354	98.4%	15.1	1.8	B
	Subtotal	**360**	**354**	**98.4%**	**15.1**	**1.8**	**B**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	770	684	88.9%	24.8	3.1	C
	Right Turn	20	19	93.0%	13.8	3.9	B
	Subtotal	**790**	**703**	**89.0%**	**24.5**	**3.1**	**C**
WB	Left Turn	140	128	91.7%	188.3	92.1	F
	Through	640	580	90.6%	235.9	95.6	F
	Right Turn						
	Subtotal	**780**	**709**	**90.8%**	**227.3**	**94.7**	**F**
Total		**1,930**	**1,766**	**91.5%**	**103.5**	**36.4**	**F**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	270	269	99.8%	83.6	17.3	F
	Through	750	741	98.8%	30.0	2.0	C
	Right Turn	510	514	100.7%	19.7	3.4	B
	Subtotal	**1,530**	**1,524**	**99.6%**	**36.1**	**4.4**	**D**
SB	Left Turn	70	71	101.1%	76.6	15.5	E
	Through	520	519	99.9%	38.1	1.7	D
	Right Turn	290	289	99.8%	17.8	1.6	B
	Subtotal	**880**	**880**	**100.0%**	**34.6**	**1.6**	**C**
EB	Left Turn	270	262	96.9%	75.1	15.4	E
	Through	1,040	985	94.7%	43.5	5.7	D
	Right Turn	590	559	94.8%	19.7	2.7	B
	Subtotal	**1,900**	**1,805**	**95.0%**	**40.7**	**3.6**	**D**
WB	Left Turn	250	247	98.7%	70.6	7.5	E
	Through	910	869	95.5%	144.2	43.7	F
	Right Turn	70	74	105.1%	142.8	47.2	F
	Subtotal	**1,230**	**1,189**	**96.7%**	**129.2**	**37.5**	**F**
Total		**5,540**	**5,399**	**97.4%**	**57.8**	**8.3**	**E**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	450	341	75.8%	629.6	78.3	F
	Through	1,100	1,075	97.7%	152.5	66.8	F
	Right Turn	210	207	98.5%	125.2	71.5	F
	Subtotal	**1,760**	**1,623**	**92.2%**	**249.1**	**57.9**	**F**
SB	Left Turn	680	614	90.2%	168.4	11.9	F
	Through	1,700	1,507	88.7%	231.9	12.7	F
	Right Turn	220	191	87.0%	253.5	15.0	F
	Subtotal	**2,600**	**2,312**	**88.9%**	**216.8**	**12.1**	**F**
EB	Left Turn	330	182	55.2%	793.2	19.7	F
	Through	2,290	1,267	55.3%	841.3	10.1	F
	Right Turn	360	196	54.4%	811.0	25.8	F
	Subtotal	**2,980**	**1,644**	**55.2%**	**832.4**	**8.6**	**F**
WB	Left Turn	300	288	96.1%	231.5	73.6	F
	Through	1,240	1,242	100.2%	81.4	18.1	F
	Right Turn	460	470	102.1%	27.4	9.0	C
	Subtotal	**2,000**	**2,000**	**100.0%**	**90.6**	**12.3**	**F**
Total		**9,340**	**7,580**	**81.2%**	**324.0**	**12.4**	**F**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	100	99	99.3%	52.5	3.6	D
	Through	400	389	97.2%	41.5	5.9	D
	Right Turn	390	397	101.7%	2.9	0.1	A
	Subtotal	**890**	**885**	**99.4%**	**25.5**	**3.1**	**C**
SB	Left Turn	50	50	99.2%	64.0	3.4	E
	Through	220	223	101.4%	36.9	3.0	D
	Right Turn	220	220	100.2%	3.8	0.4	A
	Subtotal	**490**	**493**	**100.6%**	**24.8**	**1.9**	**C**
EB	Left Turn	250	235	94.0%	54.8	6.1	D
	Through	840	803	95.6%	32.2	1.3	C
	Right Turn	370	366	99.0%	10.1	0.5	B
	Subtotal	**1,460**	**1,404**	**96.2%**	**30.2**	**1.7**	**C**
WB	Left Turn	180	177	98.5%	57.3	8.1	E
	Through	890	896	100.6%	38.7	2.2	D
	Right Turn	30	28	94.7%	10.1	0.7	B
	Subtotal	**1,100**	**1,101**	**100.1%**	**41.0**	**1.6**	**D**
Total		**3,940**	**3,884**	**98.6%**	**31.5**	**1.3**	**C**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	310	296	95.6%	169.8	51.3	F
	Through	530	499	94.2%	220.9	60.5	F
	Right Turn	340	313	92.1%	214.7	69.1	F
	Subtotal	**1,180**	**1,109**	**93.9%**	**205.6**	**60.5**	**F**
SB	Left Turn	250	246	98.6%	132.5	53.7	F
	Through	240	226	94.0%	40.0	4.2	D
	Right Turn	380	384	101.1%	22.9	1.9	C
	Subtotal	**870**	**856**	**98.4%**	**59.2**	**17.3**	**E**
EB	Left Turn	610	569	93.3%	243.4	21.7	F
	Through	1,970	1,812	92.0%	225.8	31.6	F
	Right Turn	470	441	93.8%	171.8	40.0	F
	Subtotal	**3,050**	**2,822**	**92.5%**	**220.9**	**30.8**	**F**
WB	Left Turn	180	174	96.4%	219.3	99.4	F
	Through	1,340	1,318	98.3%	109.6	33.5	F
	Right Turn	80	80	100.5%	83.0	34.6	F
	Subtotal	**1,600**	**1,572**	**98.2%**	**120.8**	**34.7**	**F**
Total		**6,700**	**6,358**	**94.9%**	**171.6**	**17.8**	**F**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	190	187	98.6%	61.6	8.5	E
	Through	210	203	96.8%	33.7	2.5	C
	Right Turn	270	273	101.1%	34.2	2.4	C
	Subtotal	**670**	**664**	**99.0%**	**41.8**	**2.4**	**D**
SB	Left Turn	60	62	102.8%	66.6	11.5	E
	Through	180	178	98.7%	39.7	2.0	D
	Right Turn	70	73	103.7%	10.6	1.2	B
	Subtotal	**310**	**312**	**100.6%**	**38.2**	**3.7**	**D**
EB	Left Turn	110	110	99.6%	51.8	5.3	D
	Through	700	701	100.1%	35.2	1.7	D
	Right Turn	170	161	94.9%	32.2	3.9	C
	Subtotal	**980**	**972**	**99.2%**	**36.6**	**2.1**	**D**
WB	Left Turn	460	446	97.0%	52.5	4.2	D
	Through	430	423	98.4%	23.1	1.6	C
	Right Turn	50	50	100.0%	18.4	2.5	B
	Subtotal	**940**	**919**	**97.8%**	**37.1**	**2.5**	**D**
Total		**2,900**	**2,867**	**98.9%**	**38.2**	**1.1**	**D**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	80	73	91.8%	140.4	44.4	F
	Through	540	517	95.7%	117.0	39.9	F
	Right Turn	310	303	97.6%	84.4	38.6	F
	Subtotal	**930**	**893**	**96.0%**	**107.9**	**39.8**	**F**
SB	Left Turn	110	109	99.5%	144.7	30.3	F
	Through	560	554	98.9%	90.4	13.7	F
	Right Turn	230	238	103.3%	11.1	0.9	B
	Subtotal	**900**	**901**	**100.1%**	**76.3**	**6.2**	**E**
EB	Left Turn	300	285	95.0%	81.0	18.1	F
	Through	570	574	100.7%	56.4	4.3	E
	Right Turn	100	103	103.1%	52.9	4.6	D
	Subtotal	**970**	**962**	**99.2%**	**63.4**	**8.0**	**E**
WB	Left Turn	260	262	100.7%	88.9	26.7	F
	Through	620	627	101.1%	55.1	5.3	E
	Right Turn	100	99	99.1%	5.4	0.6	A
	Subtotal	**980**	**987**	**100.8%**	**59.2**	**9.6**	**E**
Total		**3,780**	**3,743**	**99.0%**	**76.1**	**12.5**	**E**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	610	618	101.3%	103.4	32.3	F
	Through	790	797	100.8%	36.3	1.7	D
	Right Turn	100	102	102.1%	31.7	5.6	C
	Subtotal	**1,500**	**1,517**	**101.1%**	**63.5**	**14.1**	**E**
SB	Left Turn	70	68	97.3%	79.8	26.7	E
	Through	660	656	99.3%	101.6	42.3	F
	Right Turn	230	231	100.3%	31.4	27.9	C
	Subtotal	**960**	**954**	**99.4%**	**83.1**	**37.5**	**F**
EB	Left Turn	310	306	98.7%	59.0	3.2	E
	Through	1,310	1,290	98.5%	91.4	19.5	F
	Right Turn	960	955	99.5%	58.3	18.7	E
	Subtotal	**2,580**	**2,551**	**98.9%**	**75.2**	**17.2**	**E**
WB	Left Turn	60	55	91.0%	81.4	20.4	F
	Through	780	783	100.4%	37.5	1.3	D
	Right Turn	40	42	106.0%	9.2	1.3	A
	Subtotal	**880**	**880**	**100.0%**	**39.0**	**1.4**	**D**
Total		**5,920**	**5,902**	**99.7%**	**68.2**	**6.5**	**E**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	65	92.4%	171.8	62.1	F
	Through	310	295	95.2%	192.7	64.3	F
	Right Turn	50	49	98.0%	187.5	65.3	F
	Subtotal	**430**	**409**	**95.1%**	**188.8**	**63.9**	**F**
SB	Left Turn	300	289	96.4%	163.5	69.4	F
	Through	200	193	96.7%	153.6	65.2	F
	Right Turn	180	173	96.0%	113.9	67.5	F
	Subtotal	**680**	**655**	**96.4%**	**147.6**	**68.2**	**F**
EB	Left Turn	260	247	94.8%	104.2	36.0	F
	Through	580	578	99.6%	107.6	49.6	F
	Right Turn	40	41	103.5%	101.7	54.9	F
	Subtotal	**880**	**866**	**98.4%**	**106.5**	**39.8**	**F**
WB	Left Turn	50	39	77.4%	459.4	66.6	F
	Through	490	415	84.7%	431.6	62.3	F
	Right Turn	150	120	79.7%	400.6	61.6	F
	Subtotal	**690**	**573**	**83.1%**	**427.0**	**61.6**	**F**
Total		**2,680**	**2,503**	**93.4%**	**204.3**	**29.8**	**F**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	280	223	79.8%	460.8	93.1	F
	Through	510	441	86.4%	298.8	56.0	F
	Right Turn	390	334	85.5%	100.3	25.2	F
	Subtotal	**1,180**	**997**	**84.5%**	**269.4**	**55.4**	**F**
SB	Left Turn	60	51	84.2%	441.9	86.7	F
	Through	360	306	85.1%	424.5	74.3	F
	Right Turn	80	69	86.1%	401.1	86.5	F
	Subtotal	**500**	**426**	**85.1%**	**423.2**	**73.7**	**F**
EB	Left Turn	90	62	68.8%	429.0	21.1	F
	Through	450	326	72.5%	442.7	12.8	F
	Right Turn	240	169	70.4%	430.4	13.3	F
	Subtotal	**780**	**557**	**71.4%**	**437.6**	**9.9**	**F**
WB	Left Turn	290	226	78.0%	435.7	44.5	F
	Through	520	406	78.1%	311.1	40.3	F
	Right Turn	90	69	76.1%	303.1	45.7	F
	Subtotal	**900**	**701**	**77.9%**	**350.7**	**43.2**	**F**
Total		**3,360**	**2,681**	**79.8%**	**349.2**	**30.1**	**F**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	220	220	100.2%	31.9	3.2	C
	Through						
	Right Turn	310	310	99.9%	11.0	1.0	B
	Subtotal	**530**	**530**	**100.0%**	**19.7**	**1.8**	**B**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	660	657	99.5%	17.6	1.0	B
	Right Turn	220	227	103.0%	11.8	0.9	B
	Subtotal	**880**	**884**	**100.4%**	**16.1**	**0.8**	**B**
WB	Left Turn	280	281	100.5%	32.4	4.6	C
	Through	530	548	103.3%	4.9	0.4	A
	Right Turn						
	Subtotal	**810**	**829**	**102.3%**	**14.2**	**2.0**	**B**
Total		**2,220**	**2,243**	**101.0%**	**16.3**	**1.0**	**B**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	40	37	93.0%	68.7	10.8	E
	Through	620	609	98.2%	45.9	4.8	D
	Right Turn	560	558	99.7%	57.5	5.2	E
	Subtotal	**1,220**	**1,204**	**98.7%**	**51.9**	**4.6**	**D**
SB	Left Turn	50	50	99.4%	70.9	12.0	E
	Through	650	653	100.5%	31.9	1.7	C
	Right Turn	220	218	99.0%	24.7	1.7	C
	Subtotal	**920**	**921**	**100.1%**	**32.3**	**2.1**	**C**
EB	Left Turn	240	245	102.1%	116.7	32.0	F
	Through	270	261	96.6%	106.2	34.8	F
	Right Turn	60	61	101.3%	71.2	30.5	E
	Subtotal	**570**	**567**	**99.4%**	**107.0**	**32.9**	**F**
WB	Left Turn	560	556	99.3%	68.9	12.4	E
	Through	290	290	100.0%	59.1	5.6	E
	Right Turn	40	42	104.3%	25.0	6.2	C
	Subtotal	**890**	**888**	**99.8%**	**63.7**	**9.2**	**E**
Total		**3,600**	**3,580**	**99.4%**	**58.6**	**7.3**	**E**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	140	132	94.4%	142.9	69.9	F
	Through						
	Right Turn	550	528	96.0%	141.0	69.1	F
	Subtotal	**690**	**660**	**95.7%**	**141.3**	**69.1**	**F**
EB	Left Turn	630	607	96.3%	101.1	43.5	F
	Through	290	281	96.8%	68.0	42.2	E
	Right Turn						
	Subtotal	**920**	**888**	**96.5%**	**90.6**	**43.4**	**F**
WB	Left Turn						
	Through	410	369	89.9%	279.4	79.8	F
	Right Turn	150	137	91.3%	270.2	81.3	F
	Subtotal	**560**	**506**	**90.3%**	**276.9**	**79.9**	**F**
Total		**2,170**	**2,053**	**94.6%**	**152.2**	**22.2**	**F**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	28	92.3%	26.4	6.1	D
	Through	40	42	104.0%	26.5	2.1	D
	Right Turn	30	29	96.3%	10.5	2.3	B
	Subtotal	**100**	**98**	**98.2%**	**21.8**	**1.9**	**C**
SB	Left Turn	80	74	92.4%	97.7	43.1	F
	Through	90	88	97.6%	101.0	38.3	F
	Right Turn	220	227	103.2%	82.6	40.2	F
	Subtotal	**390**	**389**	**99.7%**	**89.7**	**40.3**	**F**
EB	Left Turn	90	96	106.7%	8.6	0.8	A
	Through	410	411	100.3%	6.1	0.8	A
	Right Turn	30	31	104.0%	4.7	1.3	A
	Subtotal	**530**	**538**	**101.6%**	**6.4**	**0.7**	**A**
WB	Left Turn	30	31	102.0%	4.8	0.7	A
	Through	360	355	98.6%	5.0	0.3	A
	Right Turn	60	62	102.7%	1.7	0.3	A
	Subtotal	**450**	**447**	**99.4%**	**4.5**	**0.3**	**A**
Total		**1,470**	**1,472**	**100.2%**	**28.9**	**11.0**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	109	98.8%	24.7	2.1	C
	Through	60	58	97.0%	20.0	1.5	B
	Right Turn	80	77	95.8%	10.5	1.8	B
	Subtotal	**250**	**244**	**97.4%**	**19.1**	**1.3**	**B**
SB	Left Turn	100	98	98.0%	24.4	2.3	C
	Through	60	60	99.8%	19.6	2.4	B
	Right Turn	140	141	100.9%	6.9	0.9	A
	Subtotal	**300**	**299**	**99.7%**	**15.2**	**1.1**	**B**
EB	Left Turn	100	99	99.3%	31.8	2.4	C
	Through	800	802	100.2%	13.2	0.9	B
	Right Turn	50	52	103.2%	9.7	2.1	A
	Subtotal	**950**	**953**	**100.3%**	**14.9**	**0.8**	**B**
WB	Left Turn	40	38	94.8%	37.6	3.6	D
	Through	760	754	99.2%	20.3	0.8	C
	Right Turn	80	82	102.0%	12.8	2.0	B
	Subtotal	**880**	**873**	**99.2%**	**20.4**	**0.9**	**C**
Total		**2,380**	**2,369**	**99.5%**	**17.4**	**0.6**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	120	121	100.6%	148.1	59.2	F
	Through	480	472	98.2%	150.7	58.4	F
	Right Turn	240	239	99.6%	76.2	55.8	E
	Subtotal	**840**	**831**	**99.0%**	**128.9**	**57.1**	**F**
SB	Left Turn	390	336	86.2%	434.0	69.3	F
	Through	410	364	88.7%	398.0	80.2	F
	Right Turn	80	67	83.9%	395.1	80.8	F
	Subtotal	**880**	**767**	**87.1%**	**413.6**	**74.7**	**F**
EB	Left Turn	110	81	73.8%	391.7	50.0	F
	Through	800	644	80.5%	286.2	19.7	F
	Right Turn	100	80	79.6%	277.8	22.8	F
	Subtotal	**1,010**	**804**	**79.6%**	**296.4**	**22.5**	**F**
WB	Left Turn	170	141	82.7%	401.7	23.9	F
	Through	740	611	82.6%	332.3	34.4	F
	Right Turn	470	400	85.1%	203.4	32.2	F
	Subtotal	**1,380**	**1,151**	**83.4%**	**296.1**	**30.8**	**F**
Total		**4,110**	**3,554**	**86.5%**	**282.5**	**26.7**	**F**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	180	175	97.1%	56.9	4.2	E
	Through	190	193	101.8%	30.9	2.4	C
	Right Turn	180	185	102.6%	13.5	1.2	B
	Subtotal	**550**	**553**	**100.5%**	**33.4**	**1.7**	**C**
SB	Left Turn	60	61	101.0%	54.5	11.2	D
	Through	140	143	102.4%	32.4	2.1	C
	Right Turn	130	126	96.8%	15.5	1.7	B
	Subtotal	**330**	**330**	**99.9%**	**30.1**	**3.5**	**C**
EB	Left Turn	150	144	96.1%	57.9	11.3	E
	Through	920	912	99.2%	28.2	2.6	C
	Right Turn	190	189	99.3%	24.6	2.9	C
	Subtotal	**1,260**	**1,245**	**98.8%**	**31.1**	**3.6**	**C**
WB	Left Turn	130	128	98.4%	57.0	7.9	E
	Through	980	978	99.8%	27.6	2.5	C
	Right Turn	60	59	98.5%	24.8	4.2	C
	Subtotal	**1,170**	**1,165**	**99.6%**	**30.7**	**3.0**	**C**
Total		**3,310**	**3,293**	**99.5%**	**31.3**	**2.4**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	40	41	101.3%	53.3	6.1	D
	Through	830	834	100.5%	45.1	3.0	D
	Right Turn	30	30	99.7%	31.0	4.7	C
	Subtotal	**900**	**905**	**100.5%**	**45.0**	**2.8**	**D**
SB	Left Turn	160	160	100.2%	65.5	10.4	E
	Through	600	592	98.6%	25.3	2.6	C
	Right Turn	200	208	104.0%	17.5	2.7	B
	Subtotal	**960**	**960**	**100.0%**	**30.4**	**2.6**	**C**
EB	Left Turn	150	151	100.4%	61.3	5.5	E
	Through	400	391	97.7%	42.3	4.0	D
	Right Turn	140	142	101.2%	17.0	2.0	B
	Subtotal	**690**	**683**	**99.0%**	**41.3**	**3.3**	**D**
WB	Left Turn	20	18	90.5%	45.1	10.1	D
	Through	70	72	102.4%	33.6	3.3	C
	Right Turn	140	144	103.1%	10.3	1.0	B
	Subtotal	**230**	**234**	**101.8%**	**20.0**	**1.5**	**B**
Total		**2,780**	**2,782**	**100.1%**	**37.0**	**1.5**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	130	129	99.5%	40.2	5.1	D
	Through	610	609	99.8%	18.2	1.3	B
	Right Turn	50	54	108.6%	11.3	2.4	B
	Subtotal	**790**	**792**	**100.3%**	**21.3**	**1.8**	**C**
SB	Left Turn	30	24	81.3%	39.1	3.2	D
	Through	520	524	100.8%	26.0	1.8	C
	Right Turn	240	242	100.9%	9.6	0.6	A
	Subtotal	**790**	**791**	**100.1%**	**21.4**	**1.5**	**C**
EB	Left Turn	220	229	104.1%	36.0	3.4	D
	Through	120	116	96.7%	26.8	1.7	C
	Right Turn	180	179	99.2%	8.1	0.8	A
	Subtotal	**520**	**524**	**100.7%**	**24.5**	**2.0**	**C**
WB	Left Turn	40	38	94.3%	37.3	5.8	D
	Through	80	84	104.4%	38.0	3.4	D
	Right Turn	30	32	106.0%	17.5	3.2	B
	Subtotal	**150**	**153**	**102.0%**	**33.4**	**2.5**	**C**
Total		**2,250**	**2,259**	**100.4%**	**22.9**	**1.4**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Queue Length | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	110	200	255	0	0	0
	Through	2,428	151	267	298	0	0	0
	Right Turn	2,428	151	267	298	0	0	0
SB	Left Turn	300	88	164	185	0	0	0
	Through	2,373	72	137	170	0	0	0
	Right Turn	2,373	72	137	170	0	0	0
EB	Left Turn	530	59	121	144	0	0	0
	Through	3,295	193	291	329	0	0	0
	Right Turn	410	62	110	136	0	0	0
WB	Left Turn	580	54	110	129	0	0	0
	Through	2,546	215	341	366	0	0	0
	Right Turn	530	20	52	72	0	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	3,678	1941	3223	2936	0	0	0
	Through	3,678	1196	2990	2828	0	0	0
	Right Turn	400	136	280	365	0	0	0
SB	Left Turn	300	217	**432**	**360**	0	0	0
	Through	3,952	517	1058	947	0	46	0
	Right Turn	3,952	517	1058	947	0	46	0
EB	Left Turn	715	335	**881**	**775**	0	0	0
	Through	2,546	1104	1980	1794	0	59	0
	Right Turn	355	**384**	**532**	**415**	0	1	0
WB	Left Turn	660	440	**769**	617	0	16	0
	Through	3,623	360	930	828	0	0	0
	Right Turn	415	15	48	64	0	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	71	**188**	**243**	0	0	0
	Through	464	247	393	459	0	21	0
	Right Turn	464	233	356	365	0	0	0
SB	Left Turn	290	**347**	**369**	**350**	0	86	0
	Through	5,159	1269	2342	2161	0	3	0
	Right Turn	5,159	959	2137	2110	0	0	0
EB	Left Turn	250	**295**	**353**	**310**	0	57	0
	Through	5,459	1671	3909	2942	0	23	2
	Right Turn	5,459	1671	3909	2942	0	23	2
WB	Left Turn	90	30	**99**	**140**	0	1	0
	Through	491	**493**	**537**	**506**	0	68	49
	Right Turn	160	129	**284**	**220**	0	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Queue Length | **PM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn							
	Through	586	132	227	256	0	0	0
	Right Turn							
SB	Left Turn							
	Through	464	126	255	272	0	0	0
	Right Turn							
EB	Left Turn							
	Through							
	Right Turn							
WB	Left Turn	672	74	148	172	0	0	0
	Through							
	Right Turn	672	74	148	172	0	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn							
	Through							
	Right Turn	672	118	228	294	0	0	0
SB	Left Turn							
	Through							
	Right Turn							
EB	Left Turn							
	Through	491	299	**500**	**500**	0	0	1
	Right Turn	491	299	**500**	**500**	0	0	1
WB	Left Turn	530	423	**821**	**590**	0	0	0
	Through	3,699	1748	3377	2907	0	56	4
	Right Turn							

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	260	255	**362**	**319**	0	21	0
	Through	1,947	290	525	552	0	2	0
	Right Turn	1,947	181	325	377	0	0	0
SB	Left Turn	420	80	161	188	0	0	0
	Through	520	172	258	297	0	0	0
	Right Turn	535	119	213	263	0	0	0
EB	Left Turn	775	134	229	244	0	0	0
	Through	1,459	237	342	358	0	0	0
	Right Turn	660	169	300	347	0	0	0
WB	Left Turn	975	258	800	631	0	0	0
	Through	2,637	715	1307	1193	0	12	0
	Right Turn	2,637	724	1311	1204	0	0	0

SimTraffic Post-Processor **North County Corridor**
Average Results from 10 Runs **2042 No Project**
Queue Length **PM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	**284**	**286**	**285**	0	76	0
	Through	3,853	2274	3761	3486	0	58	3
	Right Turn	200	169	**261**	200	0	2	0
SB	Left Turn	500	**609**	**710**	**620**	0	0	0
	Through	1,810	1765	**2145**	**1862**	0	59	53
	Right Turn	1,810	1697	**2159**	**1862**	0	0	27
EB	Left Turn							
	Through	4,930	4826	**5494**	**4982**	0	74	84
	Right Turn							
WB	Left Turn	300	**696**	**432**	**360**	0	34	0
	Through	4,776	552	903	899	0	26	0
	Right Turn	350	271	**488**	**410**	0	0	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	260	93	200	**302**	0	0	0
	Through	1,530	226	353	396	0	7	0
	Right Turn							
SB	Left Turn	110	55	**120**	**155**	0	1	0
	Through	1,977	135	232	265	0	17	0
	Right Turn	260	1	31	31	0	0	0
EB	Left Turn	320	187	306	**348**	0	2	0
	Through	2,480	206	336	397	0	4	0
	Right Turn	250	32	186	**310**	0	0	0
WB	Left Turn	420	150	264	311	0	0	0
	Through	2,632	252	404	438	0	13	0
	Right Turn	240	16	127	240	0	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	259	**443**	**360**	0	0	0
	Through	1,263	897	**1435**	**1272**	0	67	14
	Right Turn	1,263	875	**1411**	1247	0	0	12
SB	Left Turn	300	290	**415**	**356**	0	31	0
	Through	1,269	283	705	582	0	0	0
	Right Turn	300	164	279	**316**	0	0	0
EB	Left Turn	300	**332**	**419**	**360**	0	21	0
	Through	2,613	2023	**3130**	**2655**	0	62	19
	Right Turn	300	271	**483**	**360**	0	1	0
WB	Left Turn	300	278	**430**	**360**	0	24	0
	Through	3,308	616	1014	957	0	43	0
	Right Turn	3,308	527	907	814	0	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Queue Length | **PM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	155	**253**	**258**	0	6	0
	Through	2,570	136	261	352	0	2	0
	Right Turn	2,570	169	274	306	0	0	0
SB	Left Turn	150	71	145	**182**	0	1	0
	Through	2,170	131	240	294	0	30	0
	Right Turn	75	51	**124**	**135**	0	0	0
EB	Left Turn	525	94	167	188	0	0	0
	Through	2,722	219	333	355	0	0	0
	Right Turn	2,722	235	348	373	0	0	0
WB	Left Turn	625	170	250	282	0	0	0
	Through	3,227	96	170	195	0	0	0
	Right Turn	3,227	112	185	205	0	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	170	122	**254**	**230**	0	1	0
	Through	1,584	1003	**1858**	1452	0	51	18
	Right Turn	240	239	**398**	**300**	0	1	0
SB	Left Turn	315	231	**446**	**375**	0	6	0
	Through	3,994	591	1025	1036	0	38	0
	Right Turn	3,994	84	207	302	0	0	0
EB	Left Turn	410	252	399	**423**	0	1	0
	Through	2,526	230	350	416	0	0	0
	Right Turn	2,526	246	359	394	0	0	0
WB	Left Turn	310	253	**386**	**366**	0	10	0
	Through	1,889	271	470	542	0	2	0
	Right Turn							

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	389	695	670	0	9	0
	Through	2,052	257	372	426	0	0	0
	Right Turn	2,052	259	374	400	0	0	0
SB	Left Turn	300	108	298	**338**	0	0	0
	Through	2,174	369	656	647	0	25	0
	Right Turn	300	162	**403**	**360**	0	0	0
EB	Left Turn	1,376	516	**1377**	1177	0	0	2
	Through	1,376	993	**1690**	1369	0	29	16
	Right Turn	300	**304**	**518**	**360**	0	0	0
WB	Left Turn	300	66	133	161	0	0	0
	Through	1,274	225	302	325	0	1	0
	Right Turn	300	22	57	72	0	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Queue Length | **PM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	164	**380**	**310**	0	0	0
	Through	1,227	832	**1423**	1138	0	66	14
	Right Turn	1,227	832	**1423**	1138	0	66	14
SB	Left Turn	175	**224**	**274**	**235**	0	52	0
	Through	1,669	1132	**1976**	1560	0	42	21
	Right Turn	100	**106**	**191**	**160**	0	2	0
EB	Left Turn	3,220	367	789	795	0	0	0
	Through	3,220	724	1310	1089	0	0	0
	Right Turn	3,220	724	1310	1089	0	0	0
WB	Left Turn	75	56	**127**	**134**	0	11	0
	Through	3,356	2598	**3989**	**3408**	0	70	36
	Right Turn	150	134	**266**	**210**	0	1	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	**352**	**401**	**360**	0	62	0
	Through	2,312	1969	**2973**	**2364**	0	19	53
	Right Turn	2,312	1711	**3241**	**2364**	0	0	35
SB	Left Turn	300	208	**456**	**360**	0	1	0
	Through	2,478	1695	**2843**	2361	0	77	21
	Right Turn	2,478	1695	**2843**	2361	0	77	21
EB	Left Turn	300	197	**452**	**360**	0	0	0
	Through	2,395	2359	**2737**	**2448**	0	69	85
	Right Turn	2,395	2359	**2737**	**2448**	0	69	85
WB	Left Turn	300	**357**	**384**	**360**	0	68	0
	Through	2,598	2308	**3290**	**2651**	0	12	62
	Right Turn	2,598	2308	**3290**	**2651**	0	12	62

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	134	243	287	0	6	0
	Through							
	Right Turn	150	97	**188**	**205**	0	1	0
SB	Left Turn							
	Through							
	Right Turn							
EB	Left Turn							
	Through	826	147	220	247	0	0	0
	Right Turn	300	148	224	251	0	0	0
WB	Left Turn	400	154	244	274	0	0	0
	Through	890	48	94	114	0	0	0
	Right Turn							

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Queue Length | **PM Peak Hour**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	48	157	**309**	0	0	0
	Through	2,150	370	622	703	0	21	0
	Right Turn	2,150	463	729	798	0	0	0
SB	Left Turn	250	57	138	171	0	0	0
	Through	2,396	208	317	352	0	4	0
	Right Turn	2,396	227	338	370	0	0	0
EB	Left Turn	150	**196**	**250**	**210**	0	44	0
	Through	2,149	597	1161	1134	0	51	0
	Right Turn	75	61	**151**	**135**	0	1	0
WB	Left Turn	300	271	**388**	**360**	0	8	0
	Through	2,758	293	607	712	0	53	0
	Right Turn	75	42	**128**	**135**	0	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn							
	Through							
	Right Turn							
SB	Left Turn	1,909	838	1818	1446	0	0	8
	Through							
	Right Turn	300	**336**	**431**	**360**	0	67	0
EB	Left Turn	300	**352**	**391**	**360**	0	39	0
	Through	1,991	995	**2039**	1656	0	0	5
	Right Turn							
WB	Left Turn							
	Through	5,306	1573	2719	2431	0	0	0
	Right Turn	5,306	1573	2719	2431	0	0	0

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,498	49	98	127	0	29	0
	Through	1,498	49	98	127	0	29	0
	Right Turn	20	**26**	**59**	**61**	0	5	0
SB	Left Turn	1,216	357	850	782	0	61	0
	Through	1,216	357	850	782	0	61	0
	Right Turn	20	**53**	**68**	**67**	0	31	0
EB	Left Turn	2,720	56	146	209	0	0	0
	Through	2,720	56	146	209	0	0	0
	Right Turn	2,720	56	146	209	0	0	0
WB	Left Turn	2,487	13	47	77	0	0	0
	Through	2,487	13	47	77	0	0	0
	Right Turn	2,487	13	47	77	0	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Queue Length | **PM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	61	109	138	0	0	0
	Through	1,264	57	103	126	0	0	0
	Right Turn	1,264	57	103	126	0	0	0
SB	Left Turn	100	49	98	**126**	0	1	0
	Through	1,626	35	88	131	0	1	0
	Right Turn	75	47	**80**	**98**	0	1	0
EB	Left Turn	250	59	111	131	0	0	0
	Through	1,565	106	192	227	0	0	0
	Right Turn	1,565	124	214	258	0	0	0
WB	Left Turn	250	32	67	78	0	0	0
	Through	2,616	179	272	312	0	2	0
	Right Turn	300	126	226	273	0	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,934	687	1453	1163	0	50	3
	Through							
	Right Turn							
SB	Left Turn	5,862	1749	2833	2556	0	0	0
	Through	5,862	1749	2833	2556	0	0	0
	Right Turn	5,862	1687	2814	2508	0	0	0
EB	Left Turn	50	**98**	**131**	**110**	0	82	0
	Through	2,754	2716	**3192**	**2806**	0	32	70
	Right Turn	200	**256**	**278**	**260**	0	36	0
WB	Left Turn	300	269	**455**	**360**	0	4	0
	Through							
	Right Turn	2,573	2389	**3299**	**2625**	0	56	64

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	94	166	**218**	0	0	0
	Through	1,873	130	238	281	0	35	0
	Right Turn	50	**82**	**132**	**110**	0	11	0
SB	Left Turn	100	56	**118**	**147**	0	4	0
	Through	2,914	91	179	229	0	9	0
	Right Turn	100	62	**121**	**152**	0	1	0
EB	Left Turn	250	124	244	**294**	0	1	0
	Through	1,999	249	389	444	0	7	0
	Right Turn	1,999	260	401	452	0	0	0
WB	Left Turn	200	107	**219**	**252**	0	1	0
	Through	2,690	225	353	389	0	10	0
	Right Turn	2,690	249	372	407	0	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 No Project**
Queue Length | **PM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	41	125	246	0	0	0
	Through	1,498	320	565	715	0	8	0
	Right Turn	300	261	**386**	**360**	0	2	0
SB	Left Turn	400	145	269	294	0	0	0
	Through	1,981	151	254	286	0	0	0
	Right Turn	1,981	161	274	310	0	0	0
EB	Left Turn	225	156	**284**	**285**	0	2	0
	Through	5,536	261	481	617	0	13	0
	Right Turn	225	98	**251**	**285**	0	0	0
WB	Left Turn	225	19	53	68	0	0	0
	Through	2,237	53	105	126	0	0	0
	Right Turn	225	56	105	127	0	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	93	171	203	0	0	0
	Through	1,326	127	208	240	0	0	0
	Right Turn	1,326	107	192	216	0	0	0
SB	Left Turn	350	26	67	89	0	0	0
	Through	1,404	153	232	251	0	0	0
	Right Turn	350	64	119	160	0	0	0
EB	Left Turn	225	133	221	**251**	0	1	0
	Through	1,997	60	144	212	0	0	0
	Right Turn	225	45	90	114	0	0	0
WB	Left Turn	175	35	80	103	0	0	0
	Through	2,609	77	142	190	0	0	0
	Right Turn	2,609	77	142	190	0	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	220	218	99.1%	56.6	0.0	E
	Through	80	78	97.5%	28.3	0.0	C
	Right Turn	40	42	105.0%	14.8	0.0	B
	Subtotal	**340**	**338**	**99.4%**	**44.9**	**0.0**	**D**
SB	Left Turn	30	29	96.7%	46.3	0.0	D
	Through	140	139	99.3%	48.8	0.0	D
	Right Turn	60	60	100.0%	34.9	0.0	C
	Subtotal	**230**	**228**	**99.1%**	**44.8**	**0.0**	**D**
EB	Left Turn	70	69	98.6%	53.9	0.0	D
	Through	1,190	1,184	99.5%	40.6	0.0	D
	Right Turn	140	137	97.9%	13.9	0.0	B
	Subtotal	**1,400**	**1,390**	**99.3%**	**38.6**	**0.0**	**D**
WB	Left Turn	240	245	102.1%	76.2	0.0	E
	Through	1,700	1,696	99.8%	40.8	0.0	D
	Right Turn	70	70	100.0%	17.1	0.0	B
	Subtotal	**2,010**	**2,011**	**100.0%**	**44.3**	**0.0**	**D**
Total		**3,980**	**3,967**	**99.7%**	**42.4**	**0.0**	**D**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	170	167	98.2%	32.8	0.0	C
	Through	90	88	97.8%	23.2	0.0	C
	Right Turn	170	174	102.4%	2.6	0.0	A
	Subtotal	**430**	**429**	**99.8%**	**18.6**	**0.0**	**B**
SB	Left Turn	40	35	87.5%	39.0	0.0	D
	Through	110	113	102.7%	30.7	0.0	C
	Right Turn	60	66	110.0%	19.3	0.0	B
	Subtotal	**210**	**214**	**101.9%**	**28.5**	**0.0**	**C**
EB	Left Turn	50	48	96.0%	59.2	0.0	E
	Through	790	791	100.1%	35.6	0.0	D
	Right Turn	420	425	101.2%	31.1	0.0	C
	Subtotal	**1,260**	**1,264**	**100.3%**	**35.0**	**0.0**	**C**
WB	Left Turn	660	665	100.8%	42.2	0.0	D
	Through	1,780	1,771	99.5%	24.4	0.0	C
	Right Turn	50	48	96.0%	6.4	0.0	A
	Subtotal	**2,490**	**2,484**	**99.8%**	**28.8**	**0.0**	**C**
Total		**4,390**	**4,391**	**100.0%**	**29.6**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	40	36	90.0%	56.7	0.0	E
	Through	450	454	100.9%	37.8	0.0	D
	Right Turn	20	20	100.0%	31.1	0.0	C
	Subtotal	**510**	**510**	**100.0%**	**38.9**	**0.0**	**D**
SB	Left Turn	80	80	100.0%	62.0	0.0	E
	Through	540	545	100.9%	46.4	0.0	D
	Right Turn	220	228	103.6%	40.7	0.0	D
	Subtotal	**840**	**853**	**101.5%**	**46.3**	**0.0**	**D**
EB	Left Turn	200	200	100.0%	65.1	0.0	E
	Through	180	184	102.2%	27.1	0.0	C
	Right Turn	70	68	97.1%	16.5	0.0	B
	Subtotal	**450**	**452**	**100.4%**	**42.3**	**0.0**	**D**
WB	Left Turn	20	18	90.0%	108.1	0.0	F
	Through	550	502	91.3%	80.2	0.0	F
	Right Turn	150	136	90.7%	47.0	0.0	D
	Subtotal	**720**	**656**	**91.1%**	**74.1**	**0.0**	**E**
Total		**2,520**	**2,471**	**98.1%**	**51.4**	**0.0**	**D**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	490	487	99.4%	10.3	0.0	B
	Right Turn	80	78	97.5%	0.2	0.0	A
	Subtotal	**570**	**565**	**99.1%**	**8.9**	**0.0**	**A**
SB	Left Turn						
	Through	630	635	100.8%	14.4	0.0	B
	Right Turn						
	Subtotal	**630**	**635**	**100.8%**	**14.4**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	280	262	93.6%	18.7	0.0	B
	Through	20	21	105.0%	5.6	0.0	A
	Right Turn						
	Subtotal	**300**	**283**	**94.3%**	**17.7**	**0.0**	**B**
Total		**1,500**	**1,483**	**98.9%**	**12.9**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	80	78	97.5%	3.8	0.0	A
	Subtotal	**80**	**78**	**97.5%**	**3.8**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	260	266	102.3%	11.6	0.0	B
	Right Turn	20	22	110.0%	4.4	0.0	A
	Subtotal	**280**	**288**	**102.9%**	**11.1**	**0.0**	**B**
WB	Left Turn	280	263	93.9%	135.7	0.0	F
	Through	720	660	91.7%	187.4	0.0	F
	Right Turn						
	Subtotal	**1,000**	**923**	**92.3%**	**172.7**	**0.0**	**F**
Total		**1,360**	**1,289**	**94.8%**	**126.3**	**0.0**	**F**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	130	128	98.5%	21.2	0.0	C
	Through	410	411	100.2%	14.1	0.0	B
	Right Turn	140	142	101.4%	5.1	0.0	A
	Subtotal	**680**	**681**	**100.1%**	**13.6**	**0.0**	**B**
SB	Left Turn	50	52	104.0%	16.9	0.0	B
	Through	530	535	100.9%	15.9	0.0	B
	Right Turn	280	280	100.0%	10.2	0.0	B
	Subtotal	**860**	**867**	**100.8%**	**14.1**	**0.0**	**B**
EB	Left Turn	40	38	95.0%	17.3	0.0	B
	Through						
	Right Turn	140	138	98.6%	21.2	0.0	C
	Subtotal	**180**	**176**	**97.8%**	**20.4**	**0.0**	**C**
WB	Left Turn	330	322	97.6%	22.2	0.0	C
	Through						
	Right Turn	250	255	102.0%	21.1	0.0	C
	Subtotal	**580**	**577**	**99.5%**	**21.7**	**0.0**	**C**
Total		**2,300**	**2,301**	**100.0%**	**16.3**	**0.0**	**B**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	310	305	98.4%	75.3	0.0	E
	Through	920	915	99.5%	35.2	0.0	D
	Right Turn	290	286	98.6%	15.8	0.0	B
	Subtotal	**1,520**	**1,506**	**99.1%**	**39.6**	**0.0**	**D**
SB	Left Turn	160	157	98.1%	57.1	0.0	E
	Through	670	676	100.9%	34.4	0.0	C
	Right Turn	180	175	97.2%	23.3	0.0	C
	Subtotal	**1,010**	**1,008**	**99.8%**	**36.0**	**0.0**	**D**
EB	Left Turn	320	314	98.1%	185.7	0.0	F
	Through	910	911	100.1%	41.9	0.0	D
	Right Turn	240	234	97.5%	11.2	0.0	B
	Subtotal	**1,470**	**1,459**	**99.3%**	**67.9**	**0.0**	**E**
WB	Left Turn	410	391	95.4%	156.8	0.0	F
	Through	1,590	1,522	95.7%	164.7	0.0	F
	Right Turn	440	437	99.3%	119.6	0.0	F
	Subtotal	**2,440**	**2,350**	**96.3%**	**155.0**	**0.0**	**F**
Total		**6,440**	**6,323**	**98.2%**	**88.5**	**0.0**	**F**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	440	442	100.5%	30.4	0.0	C
	Through	190	190	100.0%	8.4	0.0	A
	Right Turn	350	352	100.6%	7.6	0.0	A
	Subtotal	**980**	**984**	**100.4%**	**18.0**	**0.0**	**B**
SB	Left Turn	30	30	100.0%	29.8	0.0	C
	Through	290	298	102.8%	20.7	0.0	C
	Right Turn	430	418	97.2%	36.2	0.0	D
	Subtotal	**750**	**746**	**99.5%**	**29.8**	**0.0**	**C**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,730**	**1,730**	**100.0%**	**23.1**	**0.0**	**C**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	440	435	98.9%	50.1	0.0	D
	Through	450	453	100.7%	25.5	0.0	C
	Right Turn	150	153	102.0%	15.4	0.0	B
	Subtotal	**1,040**	**1,041**	**100.1%**	**34.3**	**0.0**	**C**
SB	Left Turn	60	61	101.7%	48.1	0.0	D
	Through	430	423	98.4%	39.9	0.0	D
	Right Turn	430	429	99.8%	34.5	0.0	C
	Subtotal	**920**	**913**	**99.2%**	**37.9**	**0.0**	**D**
EB	Left Turn	230	232	100.9%	74.9	0.0	E
	Through	780	783	100.4%	29.3	0.0	C
	Right Turn	250	248	99.2%	9.5	0.0	A
	Subtotal	**1,260**	**1,263**	**100.2%**	**33.8**	**0.0**	**C**
WB	Left Turn	160	157	98.1%	51.6	0.0	D
	Through	1,530	1,538	100.5%	45.9	0.0	D
	Right Turn	110	113	102.7%	27.0	0.0	C
	Subtotal	**1,800**	**1,808**	**100.4%**	**45.2**	**0.0**	**D**
Total		**5,020**	**5,025**	**100.1%**	**38.8**	**0.0**	**D**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	140	141	100.7%	39.3	0.0	D
	Through	60	62	103.3%	28.7	0.0	C
	Right Turn	90	98	108.9%	30.6	0.0	C
	Subtotal	**290**	**301**	**103.8%**	**34.3**	**0.0**	**C**
SB	Left Turn	70	71	101.4%	41.8	0.0	D
	Through	70	74	105.7%	33.3	0.0	C
	Right Turn	120	124	103.3%	8.6	0.0	A
	Subtotal	**260**	**269**	**103.5%**	**24.2**	**0.0**	**C**
EB	Left Turn	50	49	98.0%	43.0	0.0	D
	Through	220	218	99.1%	14.1	0.0	B
	Right Turn	40	43	107.5%	5.6	0.0	A
	Subtotal	**310**	**310**	**100.0%**	**17.5**	**0.0**	**B**
WB	Left Turn	150	145	96.7%	41.9	0.0	D
	Through	570	577	101.2%	16.5	0.0	B
	Right Turn	50	54	108.0%	12.9	0.0	B
	Subtotal	**770**	**776**	**100.8%**	**21.0**	**0.0**	**C**
Total		**1,630**	**1,656**	**101.6%**	**23.3**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	48	96.0%	43.0	0.0	D
	Through	270	269	99.6%	22.6	0.0	C
	Right Turn	240	240	100.0%	7.1	0.0	A
	Subtotal	**560**	**557**	**99.5%**	**17.7**	**0.0**	**B**
SB	Left Turn	70	71	101.4%	39.7	0.0	D
	Through	520	527	101.3%	25.7	0.0	C
	Right Turn	50	53	106.0%	22.1	0.0	C
	Subtotal	**640**	**651**	**101.7%**	**26.9**	**0.0**	**C**
EB	Left Turn	90	88	97.8%	28.3	0.0	C
	Through	40	38	95.0%	40.1	0.0	D
	Right Turn	90	94	104.4%	11.2	0.0	B
	Subtotal	**220**	**220**	**100.0%**	**23.0**	**0.0**	**C**
WB	Left Turn	450	445	98.9%	30.8	0.0	C
	Through	20	19	95.0%	42.8	0.0	D
	Right Turn	70	69	98.6%	3.7	0.0	A
	Subtotal	**540**	**533**	**98.7%**	**27.7**	**0.0**	**C**
Total		**1,960**	**1,961**	**100.1%**	**24.1**	**0.0**	**C**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	850	847	99.6%	50.3	0.0	D
	Through	360	358	99.4%	15.5	0.0	B
	Right Turn	40	38	95.0%	7.2	0.0	A
	Subtotal	**1,250**	**1,243**	**99.4%**	**39.0**	**0.0**	**D**
SB	Left Turn	30	31	103.3%	59.7	0.0	E
	Through	580	580	100.0%	60.3	0.0	E
	Right Turn	490	507	103.5%	23.3	0.0	C
	Subtotal	**1,100**	**1,118**	**101.6%**	**43.5**	**0.0**	**D**
EB	Left Turn	390	380	97.4%	52.9	0.0	D
	Through	270	271	100.4%	31.1	0.0	C
	Right Turn	300	298	99.3%	3.1	0.0	A
	Subtotal	**960**	**949**	**98.9%**	**31.0**	**0.0**	**C**
WB	Left Turn	30	26	86.7%	54.6	0.0	D
	Through	470	478	101.7%	58.2	0.0	E
	Right Turn	30	32	106.7%	7.5	0.0	A
	Subtotal	**530**	**536**	**101.1%**	**55.0**	**0.0**	**D**
Total		**3,840**	**3,846**	**100.2%**	**40.6**	**0.0**	**D**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	72	102.9%	34.6	0.0	C
	Through	250	252	100.8%	44.0	0.0	D
	Right Turn	50	51	102.0%	35.0	0.0	C
	Subtotal	**370**	**375**	**101.4%**	**41.0**	**0.0**	**D**
SB	Left Turn	160	160	100.0%	38.4	0.0	D
	Through	200	206	103.0%	38.4	0.0	D
	Right Turn	190	208	109.5%	14.1	0.0	B
	Subtotal	**550**	**574**	**104.4%**	**29.6**	**0.0**	**C**
EB	Left Turn	130	126	96.9%	43.0	0.0	D
	Through	120	120	100.0%	25.4	0.0	C
	Right Turn	40	38	95.0%	12.7	0.0	B
	Subtotal	**290**	**284**	**97.9%**	**31.5**	**0.0**	**C**
WB	Left Turn	40	37	92.5%	55.1	0.0	E
	Through	200	201	100.5%	35.6	0.0	D
	Right Turn	220	220	100.0%	14.0	0.0	B
	Subtotal	**460**	**458**	**99.6%**	**26.8**	**0.0**	**C**
Total		**1,670**	**1,691**	**101.3%**	**31.7**	**0.0**	**C**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	140	143	102.1%	28.8	0.0	C
	Through	360	350	97.2%	15.5	0.0	B
	Right Turn	20	21	105.0%	4.2	0.0	A
	Subtotal	**520**	**514**	**98.8%**	**18.7**	**0.0**	**B**
SB	Left Turn	20	20	100.0%	27.7	0.0	C
	Through	420	422	100.5%	16.4	0.0	B
	Right Turn	20	23	115.0%	6.8	0.0	A
	Subtotal	**460**	**465**	**101.1%**	**16.4**	**0.0**	**B**
EB	Left Turn	40	41	102.5%	26.7	0.0	C
	Through	50	47	94.0%	16.9	0.0	B
	Right Turn	210	211	100.5%	6.5	0.0	A
	Subtotal	**300**	**299**	**99.7%**	**10.9**	**0.0**	**B**
WB	Left Turn	30	26	86.7%	28.2	0.0	C
	Through	80	79	98.8%	18.8	0.0	B
	Right Turn	50	55	110.0%	3.2	0.0	A
	Subtotal	**160**	**160**	**100.0%**	**15.0**	**0.0**	**B**
Total		**1,440**	**1,438**	**99.9%**	**15.9**	**0.0**	**B**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	117	106.4%	11.6	0.0	B
	Through						
	Right Turn	20	20	100.0%	3.4	0.0	A
	Subtotal	**130**	**137**	**105.4%**	**10.4**	**0.0**	**B**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	130	128	98.5%	6.4	0.0	A
	Right Turn	140	144	102.9%	3.3	0.0	A
	Subtotal	**270**	**272**	**100.7%**	**4.8**	**0.0**	**A**
WB	Left Turn	100	98	98.0%	10.6	0.0	B
	Through	360	361	100.3%	3.5	0.0	A
	Right Turn						
	Subtotal	**460**	**459**	**99.8%**	**5.0**	**0.0**	**A**
Total		**860**	**868**	**100.9%**	**5.8**	**0.0**	**A**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	350	351	100.3%	60.1	0.0	E
	Through	190	189	99.5%	37.9	0.0	D
	Right Turn	430	420	97.7%	19.7	0.0	B
	Subtotal	**970**	**960**	**99.0%**	**38.1**	**0.0**	**D**
SB	Left Turn	60	57	95.0%	56.8	0.0	E
	Through	230	229	99.6%	64.7	0.0	E
	Right Turn	380	376	98.9%	25.7	0.0	C
	Subtotal	**670**	**662**	**98.8%**	**41.9**	**0.0**	**D**
EB	Left Turn	300	302	100.7%	41.7	0.0	D
	Through	1,370	1,387	101.2%	33.2	0.0	C
	Right Turn	330	336	101.8%	9.7	0.0	A
	Subtotal	**2,000**	**2,025**	**101.3%**	**30.6**	**0.0**	**C**
WB	Left Turn	460	464	100.9%	38.8	0.0	D
	Through	1,220	1,236	101.3%	28.6	0.0	C
	Right Turn	60	61	101.7%	6.1	0.0	A
	Subtotal	**1,740**	**1,761**	**101.2%**	**30.5**	**0.0**	**C**
Total		**5,380**	**5,408**	**100.5%**	**33.3**	**0.0**	**C**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	46	92.0%	15.8	0.0	B
	Through	10	10	100.0%	12.0	0.0	B
	Right Turn	50	50	100.0%	4.0	0.0	A
	Subtotal	**110**	**106**	**96.4%**	**9.9**	**0.0**	**A**
SB	Left Turn	60	58	96.7%	14.1	0.0	B
	Through	10	9	90.0%	12.9	0.0	B
	Right Turn	20	20	100.0%	3.7	0.0	A
	Subtotal	**90**	**87**	**96.7%**	**11.6**	**0.0**	**B**
EB	Left Turn	240	243	101.3%	15.8	0.0	B
	Through	80	81	101.3%	8.6	0.0	A
	Right Turn	50	52	104.0%	3.5	0.0	A
	Subtotal	**370**	**376**	**101.6%**	**12.5**	**0.0**	**B**
WB	Left Turn	50	52	104.0%	23.0	0.0	C
	Through	170	168	98.8%	17.7	0.0	B
	Right Turn	80	81	101.3%	8.8	0.0	A
	Subtotal	**300**	**301**	**100.3%**	**16.2**	**0.0**	**B**
Total		**870**	**870**	**100.0%**	**13.4**	**0.0**	**B**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	27	90.0%	7.1	0.0	A
	Through	20	21	105.0%	11.3	0.0	B
	Right Turn	30	28	93.3%	3.3	0.0	A
	Subtotal	**80**	**76**	**95.0%**	**6.9**	**0.0**	**A**
SB	Left Turn	20	20	100.0%	7.7	0.0	A
	Through	40	41	102.5%	11.3	0.0	B
	Right Turn	30	28	93.3%	4.1	0.0	A
	Subtotal	**90**	**89**	**98.9%**	**8.2**	**0.0**	**A**
EB	Left Turn	20	21	105.0%	4.3	0.0	A
	Through	130	134	103.1%	1.8	0.0	A
	Right Turn	30	30	100.0%	1.4	0.0	A
	Subtotal	**180**	**185**	**102.8%**	**2.0**	**0.0**	**A**
WB	Left Turn	30	30	100.0%	2.1	0.0	A
	Through	300	304	101.3%	2.8	0.0	A
	Right Turn	50	53	106.0%	1.0	0.0	A
	Subtotal	**380**	**387**	**101.8%**	**2.5**	**0.0**	**A**
Total		**730**	**737**	**101.0%**	**3.5**	**0.0**	**A**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	115	104.5%	18.3	0.0	B
	Through	70	70	100.0%	13.1	0.0	B
	Right Turn	40	41	102.5%	5.8	0.0	A
	Subtotal	**220**	**226**	**102.7%**	**14.4**	**0.0**	**B**
SB	Left Turn	130	137	105.4%	18.8	0.0	B
	Through	80	78	97.5%	14.7	0.0	B
	Right Turn	150	151	100.7%	5.3	0.0	A
	Subtotal	**360**	**366**	**101.7%**	**12.4**	**0.0**	**B**
EB	Left Turn	80	78	97.5%	24.4	0.0	C
	Through	390	379	97.2%	13.2	0.0	B
	Right Turn	60	62	103.3%	7.9	0.0	A
	Subtotal	**530**	**519**	**97.9%**	**14.3**	**0.0**	**B**
WB	Left Turn	60	63	105.0%	27.0	0.0	C
	Through	290	296	102.1%	15.3	0.0	B
	Right Turn	80	78	97.5%	6.9	0.0	A
	Subtotal	**430**	**437**	**101.6%**	**15.5**	**0.0**	**B**
Total		**1,540**	**1,548**	**100.5%**	**14.2**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	114	103.6%	39.8	0.0	D
	Through	330	330	100.0%	40.1	0.0	D
	Right Turn	40	42	105.0%	7.1	0.0	A
	Subtotal	**480**	**486**	**101.3%**	**37.2**	**0.0**	**D**
SB	Left Turn	320	321	100.3%	46.1	0.0	D
	Through	460	462	100.4%	40.9	0.0	D
	Right Turn	90	88	97.8%	36.0	0.0	D
	Subtotal	**870**	**871**	**100.1%**	**42.3**	**0.0**	**D**
EB	Left Turn	120	110	91.7%	62.1	0.0	E
	Through	320	313	97.8%	32.7	0.0	C
	Right Turn	90	89	98.9%	23.2	0.0	C
	Subtotal	**530**	**512**	**96.6%**	**37.4**	**0.0**	**D**
WB	Left Turn	20	20	100.0%	50.6	0.0	D
	Through	200	202	101.0%	40.3	0.0	D
	Right Turn	320	325	101.6%	11.7	0.0	B
	Subtotal	**540**	**547**	**101.3%**	**23.7**	**0.0**	**C**
Total		**2,420**	**2,416**	**99.8%**	**36.0**	**0.0**	**D**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	280	280	100.0%	34.5	0.0	C
	Through	120	121	100.8%	21.4	0.0	C
	Right Turn	100	104	104.0%	6.3	0.0	A
	Subtotal	**500**	**505**	**101.0%**	**25.6**	**0.0**	**C**
SB	Left Turn	50	48	96.0%	35.5	0.0	D
	Through	160	161	100.6%	26.6	0.0	C
	Right Turn	140	139	99.3%	9.6	0.0	A
	Subtotal	**350**	**348**	**99.4%**	**21.0**	**0.0**	**C**
EB	Left Turn	70	72	102.9%	33.2	0.0	C
	Through	250	251	100.4%	21.7	0.0	C
	Right Turn	160	156	97.5%	11.1	0.0	B
	Subtotal	**480**	**479**	**99.8%**	**20.0**	**0.0**	**B**
WB	Left Turn	170	175	102.9%	31.6	0.0	C
	Through	190	191	100.5%	16.5	0.0	B
	Right Turn	50	54	108.0%	6.9	0.0	A
	Subtotal	**410**	**420**	**102.4%**	**21.6**	**0.0**	**C**
Total		**1,740**	**1,752**	**100.7%**	**22.2**	**0.0**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	47	94.0%	42.1	0.0	D
	Through	700	707	101.0%	26.6	0.0	C
	Right Turn	20	20	100.0%	15.4	0.0	B
	Subtotal	**770**	**774**	**100.5%**	**27.3**	**0.0**	**C**
SB	Left Turn	110	106	96.4%	43.1	0.0	D
	Through	650	654	100.6%	23.7	0.0	C
	Right Turn	80	82	102.5%	19.2	0.0	B
	Subtotal	**840**	**842**	**100.2%**	**25.7**	**0.0**	**C**
EB	Left Turn	50	50	100.0%	38.5	0.0	D
	Through	50	50	100.0%	31.4	0.0	C
	Right Turn	40	38	95.0%	6.4	0.0	A
	Subtotal	**140**	**138**	**98.6%**	**27.1**	**0.0**	**C**
WB	Left Turn	30	28	93.3%	38.0	0.0	D
	Through	120	126	105.0%	30.5	0.0	C
	Right Turn	270	264	97.8%	11.5	0.0	B
	Subtotal	**420**	**418**	**99.5%**	**19.0**	**0.0**	**B**
Total		**2,170**	**2,172**	**100.1%**	**25.1**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	102	92.7%	35.8	0.0	D
	Through	680	671	98.7%	15.4	0.0	B
	Right Turn	40	40	100.0%	8.9	0.0	A
	Subtotal	**830**	**813**	**98.0%**	**17.6**	**0.0**	**B**
SB	Left Turn	30	30	100.0%	35.9	0.0	D
	Through	650	637	98.0%	19.9	0.0	B
	Right Turn	40	42	105.0%	6.9	0.0	A
	Subtotal	**720**	**709**	**98.5%**	**19.8**	**0.0**	**B**
EB	Left Turn	20	18	90.0%	36.0	0.0	D
	Through	80	82	102.5%	26.3	0.0	C
	Right Turn	80	88	110.0%	6.7	0.0	A
	Subtotal	**180**	**188**	**104.4%**	**18.1**	**0.0**	**B**
WB	Left Turn	40	40	100.0%	38.0	0.0	D
	Through	230	222	96.5%	29.2	0.0	C
	Right Turn	30	33	110.0%	17.6	0.0	B
	Subtotal	**300**	**295**	**98.3%**	**29.1**	**0.0**	**C**
Total		**2,030**	**2,005**	**98.8%**	**20.1**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	80	100.0%	27.5	0.0	C
	Through	400	398	99.5%	11.4	0.0	B
	Right Turn	470	478	101.7%	11.2	0.0	B
	Subtotal	**950**	**956**	**100.6%**	**12.6**	**0.0**	**B**
SB	Left Turn	100	103	103.0%	28.8	0.0	C
	Through	430	429	99.8%	9.8	0.0	A
	Right Turn	530	534	100.8%	10.4	0.0	B
	Subtotal	**1,060**	**1,066**	**100.6%**	**11.9**	**0.0**	**B**
EB	Left Turn	90	85	94.4%	20.1	0.0	C
	Through						
	Right Turn	40	40	100.0%	24.3	0.0	C
	Subtotal	**130**	**125**	**96.2%**	**21.4**	**0.0**	**C**
WB	Left Turn	260	261	100.4%	22.1	0.0	C
	Through						
	Right Turn	70	75	107.1%	22.3	0.0	C
	Subtotal	**330**	**336**	**101.8%**	**22.1**	**0.0**	**C**
Total		**2,470**	**2,483**	**100.5%**	**14.1**	**0.0**	**B**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	260	270	103.8%	23.1	0.0	C
	Through	430	424	98.6%	13.7	0.0	B
	Right Turn	360	362	100.6%	8.4	0.0	A
	Subtotal	**1,050**	**1,056**	**100.6%**	**14.3**	**0.0**	**B**
SB	Left Turn	120	115	95.8%	28.6	0.0	C
	Through	480	482	100.4%	19.5	0.0	B
	Right Turn	60	60	100.0%	9.8	0.0	A
	Subtotal	**660**	**657**	**99.5%**	**20.2**	**0.0**	**C**
EB	Left Turn	20	0	0.0%	0.0	0.0	A
	Through						
	Right Turn	140	0	0.0%	0.0	0.0	A
	Subtotal	**160**	**0**	**0.0%**	**0.0**	**0.0**	**A**
WB	Left Turn	270	0	0.0%	0.0	0.0	A
	Through						
	Right Turn	70	0	0.0%	0.0	0.0	A
	Subtotal	**340**	**0**	**0.0%**	**0.0**	**0.0**	**A**
Total		**2,210**	**1,713**	**77.5%**	**16.6**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	40	39	97.5%	38.2	0.0	D
	Through	60	59	98.3%	29.1	0.0	C
	Right Turn	170	174	102.4%	12.1	0.0	B
	Subtotal	**270**	**272**	**100.7%**	**19.5**	**0.0**	**B**
SB	Left Turn	70	69	98.6%	39.0	0.0	D
	Through	50	51	102.0%	28.7	0.0	C
	Right Turn	880	882	100.2%	13.4	0.0	B
	Subtotal	**1,000**	**1,002**	**100.2%**	**15.9**	**0.0**	**B**
EB	Left Turn	550	558	101.5%	34.8	0.0	C
	Through	1,290	1,297	100.5%	13.7	0.0	B
	Right Turn	20	20	100.0%	2.7	0.0	A
	Subtotal	**1,860**	**1,875**	**100.8%**	**19.9**	**0.0**	**B**
WB	Left Turn	50	48	96.0%	46.8	0.0	D
	Through	820	806	98.3%	24.3	0.0	C
	Right Turn	30	32	106.7%	5.6	0.0	A
	Subtotal	**900**	**886**	**98.4%**	**24.8**	**0.0**	**C**
Total		**4,030**	**4,035**	**100.1%**	**20.0**	**0.0**	**B**

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	20	100.0%	66.3	0.0	E
	Through	740	736	99.5%	63.0	0.0	E
	Right Turn	260	266	102.3%	18.5	0.0	B
	Subtotal	**1,020**	**1,022**	**100.2%**	**51.5**	**0.0**	**D**
SB	Left Turn	30	30	100.0%	61.2	0.0	E
	Through	400	405	101.3%	32.8	0.0	C
	Right Turn	420	411	97.9%	6.3	0.0	A
	Subtotal	**850**	**846**	**99.5%**	**20.9**	**0.0**	**C**
EB	Left Turn	980	981	100.1%	41.5	0.0	D
	Through	390	402	103.1%	22.7	0.0	C
	Right Turn	160	163	101.9%	6.4	0.0	A
	Subtotal	**1,530**	**1,546**	**101.0%**	**32.9**	**0.0**	**C**
WB	Left Turn	280	271	96.8%	43.8	0.0	D
	Through	540	539	99.8%	69.0	0.0	E
	Right Turn						
	Subtotal	**820**	**810**	**98.8%**	**60.5**	**0.0**	**E**
Total		**4,220**	**4,224**	**100.1%**	**40.3**	**0.0**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 28 **Sterns Connection/NCC** **Roundabout**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	50	49	98.0%	6.0	0.0	A
	Through	10	9	90.0%	5.8	0.0	A
	Right Turn	50	48	96.0%	3.2	0.0	A
	Subtotal	**110**	**106**	**96.4%**	**4.7**	**0.0**	**A**
SB	Left Turn	20	18	90.0%	4.9	0.0	A
	Through	10	11	110.0%	5.3	0.0	A
	Right Turn	290	288	99.3%	5.1	0.0	A
	Subtotal	**320**	**317**	**99.1%**	**5.1**	**0.0**	**A**
EB	Left Turn	280	289	103.2%	7.2	0.0	A
	Through	350	353	100.9%	9.9	0.0	A
	Right Turn	50	56	112.0%	5.4	0.0	A
	Subtotal	**680**	**698**	**102.6%**	**8.4**	**0.0**	**A**
WB	Left Turn	50	48	96.0%	8.0	0.0	A
	Through	480	474	98.8%	10.2	0.0	B
	Right Turn	20	18	90.0%	5.3	0.0	A
	Subtotal	**550**	**540**	**98.2%**	**9.8**	**0.0**	**A**
Total		**1,660**	**1,661**	**100.1%**	**8.0**	**0.0**	**A**

Intersection 29 **NCC/SR120/108** **Roundabout**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	19	95.0%	2.3	0.0	A
	Through	10	11	110.0%	5.3	0.0	A
	Right Turn	390	393	100.8%	5.9	0.0	A
	Subtotal	**420**	**423**	**100.7%**	**5.7**	**0.0**	**A**
SB	Left Turn	20	20	100.0%	8.8	0.0	A
	Through	30	31	103.3%	9.2	0.0	A
	Right Turn	110	103	93.6%	4.8	0.0	A
	Subtotal	**160**	**154**	**96.3%**	**6.2**	**0.0**	**A**
EB	Left Turn	30	31	103.3%	8.5	0.0	A
	Through	250	247	98.8%	11.8	0.0	B
	Right Turn	40	36	90.0%	1.8	0.0	A
	Subtotal	**320**	**314**	**98.1%**	**10.3**	**0.0**	**B**
WB	Left Turn	480	472	98.3%	9.7	0.0	A
	Through	480	481	100.2%	9.4	0.0	A
	Right Turn	10	10	100.0%	4.1	0.0	A
	Subtotal	**970**	**963**	**99.3%**	**9.5**	**0.0**	**A**
Total		**1,870**	**1,854**	**99.1%**	**8.5**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 30 **McHenry Ave/Charity Way** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	100	97	97.0%	17.6	0.0	B
	Through	580	587	101.2%	5.7	0.0	A
	Right Turn	20	22	110.0%	3.6	0.0	A
	Subtotal	**700**	**706**	**100.9%**	**7.3**	**0.0**	**A**
SB	Left Turn	20	21	105.0%	21.4	0.0	C
	Through	800	808	101.0%	7.4	0.0	A
	Right Turn	20	18	90.0%	3.5	0.0	A
	Subtotal	**840**	**847**	**100.8%**	**7.7**	**0.0**	**A**
EB	Left Turn	30	31	103.3%	20.0	0.0	B
	Through	10	11	110.0%	15.7	0.0	B
	Right Turn	40	40	100.0%	5.3	0.0	A
	Subtotal	**80**	**82**	**102.5%**	**12.3**	**0.0**	**B**
WB	Left Turn	20	19	95.0%	19.8	0.0	B
	Through	10	9	90.0%	14.4	0.0	B
	Right Turn	20	22	110.0%	4.4	0.0	A
	Subtotal	**50**	**50**	**100.0%**	**12.1**	**0.0**	**B**
Total		**1,670**	**1,685**	**100.9%**	**7.9**	**0.0**	**A**

Intersection 31 **McHenry Ave/Galaxy Way** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	40	37	92.5%	26.4	0.0	C
	Through	460	453	98.5%	11.9	0.0	B
	Right Turn	100	105	105.0%	3.7	0.0	A
	Subtotal	**600**	**595**	**99.2%**	**11.4**	**0.0**	**B**
SB	Left Turn	140	137	97.9%	22.6	0.0	C
	Through	800	797	99.6%	9.5	0.0	A
	Right Turn	60	63	105.0%	1.9	0.0	A
	Subtotal	**1,000**	**997**	**99.7%**	**10.8**	**0.0**	**B**
EB	Left Turn	30	30	100.0%	27.3	0.0	C
	Through	10	12	120.0%	28.7	0.0	C
	Right Turn	30	33	110.0%	9.3	0.0	A
	Subtotal	**70**	**75**	**107.1%**	**19.6**	**0.0**	**B**
WB	Left Turn	120	117	97.5%	21.3	0.0	C
	Through	10	9	90.0%	19.5	0.0	B
	Right Turn	190	196	103.2%	7.3	0.0	A
	Subtotal	**320**	**322**	**100.6%**	**12.7**	**0.0**	**B**
Total		**1,990**	**1,989**	**99.9%**	**11.6**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 32 **Coffee Road/Frontage Road (N)** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	50	49	98.0%	20.1	0.0	C
	Through	220	224	101.8%	7.8	0.0	A
	Right Turn	50	53	106.0%	3.5	0.0	A
	Subtotal	**320**	**326**	**101.9%**	**8.9**	**0.0**	**A**
SB	Left Turn	50	51	102.0%	19.8	0.0	B
	Through	600	593	98.8%	9.2	0.0	A
	Right Turn	50	50	100.0%	4.4	0.0	A
	Subtotal	**700**	**694**	**99.1%**	**9.6**	**0.0**	**A**
EB	Left Turn	50	53	106.0%	16.5	0.0	B
	Through	10	9	90.0%	13.9	0.0	B
	Right Turn	50	52	104.0%	5.7	0.0	A
	Subtotal	**110**	**114**	**103.6%**	**11.4**	**0.0**	**B**
WB	Left Turn	100	98	98.0%	16.7	0.0	B
	Through	10	9	90.0%	11.8	0.0	B
	Right Turn	50	55	110.0%	3.5	0.0	A
	Subtotal	**160**	**162**	**101.3%**	**11.9**	**0.0**	**B**
Total		**1,290**	**1,296**	**100.5%**	**9.9**	**0.0**	**A**

Intersection 33 **Coffee Road/Frontage Road (S)** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	50	49	98.0%	25.9	0.0	C
	Through	780	787	100.9%	12.3	0.0	B
	Right Turn	50	48	96.0%	3.5	0.0	A
	Subtotal	**880**	**884**	**100.5%**	**12.6**	**0.0**	**B**
SB	Left Turn	100	101	101.0%	24.7	0.0	C
	Through	530	544	102.6%	9.2	0.0	A
	Right Turn	100	96	96.0%	5.2	0.0	A
	Subtotal	**730**	**741**	**101.5%**	**10.8**	**0.0**	**B**
EB	Left Turn	100	102	102.0%	22.9	0.0	C
	Through	10	11	110.0%	16.6	0.0	B
	Right Turn	50	50	100.0%	4.5	0.0	A
	Subtotal	**160**	**163**	**101.9%**	**16.8**	**0.0**	**B**
WB	Left Turn	50	47	94.0%	19.1	0.0	B
	Through	10	10	100.0%	16.9	0.0	B
	Right Turn	100	97	97.0%	8.4	0.0	A
	Subtotal	**160**	**154**	**96.3%**	**12.2**	**0.0**	**B**
Total		**1,930**	**1,942**	**100.6%**	**12.2**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 34 **Oakdale Road/Frontage Road (S)** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	40	37	92.5%	23.7	0.0	C
	Through	730	726	99.5%	11.1	0.0	B
	Right Turn	50	47	94.0%	2.8	0.0	A
	Subtotal	**820**	**810**	**98.8%**	**11.2**	**0.0**	**B**
SB	Left Turn	50	47	94.0%	26.4	0.0	C
	Through	640	646	100.9%	10.5	0.0	B
	Right Turn	40	39	97.5%	3.1	0.0	A
	Subtotal	**730**	**732**	**100.3%**	**11.1**	**0.0**	**B**
EB	Left Turn	120	124	103.3%	19.0	0.0	B
	Through	10	8	80.0%	16.8	0.0	B
	Right Turn	120	117	97.5%	6.7	0.0	A
	Subtotal	**250**	**249**	**99.6%**	**13.1**	**0.0**	**B**
WB	Left Turn	100	97	97.0%	17.8	0.0	B
	Through	10	10	100.0%	14.8	0.0	B
	Right Turn	100	106	106.0%	8.1	0.0	A
	Subtotal	**210**	**213**	**101.4%**	**12.8**	**0.0**	**B**
Total		**2,010**	**2,004**	**99.7%**	**11.6**	**0.0**	**B**

Intersection 35 **Roselle Ave/Frontage Road (S)** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	770	773	100.4%	11.5	0.0	B
	Right Turn	50	52	104.0%	6.7	0.0	A
	Subtotal	**820**	**825**	**100.6%**	**11.2**	**0.0**	**B**
SB	Left Turn	50	52	104.0%	25.2	0.0	C
	Through	840	847	100.8%	8.2	0.0	A
	Right Turn						
	Subtotal	**890**	**899**	**101.0%**	**9.2**	**0.0**	**A**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	50	50	100.0%	18.6	0.0	B
	Through						
	Right Turn	280	284	101.4%	10.4	0.0	B
	Subtotal	**330**	**334**	**101.2%**	**11.6**	**0.0**	**B**
Total		**2,040**	**2,058**	**100.9%**	**10.4**	**0.0**	**B**

Intersection 36 **Claribel Realigned (N)/** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	8	80.0%	2.5	0.0	A
	Through	110	108	98.2%	0.3	0.0	A
	Right Turn	10	12	120.0%	0.2	0.0	A
	Subtotal	**130**	**128**	**98.5%**	**0.4**	**0.0**	**A**
SB	Left Turn	10	11	110.0%	2.6	0.0	A
	Through	80	84	105.0%	1.1	0.0	A
	Right Turn	10	11	110.0%	1.0	0.0	A
	Subtotal	**100**	**106**	**106.0%**	**1.2**	**0.0**	**A**
EB	Left Turn	10	9	90.0%	5.7	0.0	A
	Through	10	9	90.0%	6.9	0.0	A
	Right Turn	10	9	90.0%	2.8	0.0	A
	Subtotal	**30**	**27**	**90.0%**	**5.1**	**0.0**	**A**
WB	Left Turn	10	9	90.0%	5.4	0.0	A
	Through	10	10	100.0%	6.6	0.0	A
	Right Turn	10	10	100.0%	3.1	0.0	A
	Subtotal	**30**	**29**	**96.7%**	**5.0**	**0.0**	**A**
Total		**290**	**290**	**100.0%**	**1.6**	**0.0**	**A**

Intersection 37 **Claus Road/Claribel Realigned (N)** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	40	42	105.0%	23.3	0.0	C
	Through	280	283	101.1%	10.4	0.0	B
	Right Turn	230	230	100.0%	9.7	0.0	A
	Subtotal	**550**	**555**	**100.9%**	**11.1**	**0.0**	**B**
SB	Left Turn	40	37	92.5%	20.9	0.0	C
	Through	470	474	100.9%	9.0	0.0	A
	Right Turn	50	53	106.0%	5.3	0.0	A
	Subtotal	**560**	**564**	**100.7%**	**9.4**	**0.0**	**A**
EB	Left Turn	40	40	100.0%	16.3	0.0	B
	Through	10	11	110.0%	13.4	0.0	B
	Right Turn	80	77	96.3%	5.5	0.0	A
	Subtotal	**130**	**128**	**98.5%**	**9.6**	**0.0**	**A**
WB	Left Turn	120	111	92.5%	15.6	0.0	B
	Through	10	10	100.0%	16.7	0.0	B
	Right Turn	20	20	100.0%	7.1	0.0	A
	Subtotal	**150**	**141**	**94.0%**	**14.5**	**0.0**	**B**
Total		**1,390**	**1,388**	**99.9%**	**10.6**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 38 **Claus Road/Claribel Realigned (S)** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	710	701	98.7%	12.4	0.0	B
	Right Turn	50	49	98.0%	5.1	0.0	A
	Subtotal	**760**	**750**	**98.7%**	**11.9**	**0.0**	**B**
SB	Left Turn	130	132	101.5%	26.0	0.0	C
	Through	890	900	101.1%	8.7	0.0	A
	Right Turn						
	Subtotal	**1,020**	**1,032**	**101.2%**	**10.9**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	100	93	93.0%	18.1	0.0	B
	Through						
	Right Turn	260	258	99.2%	10.8	0.0	B
	Subtotal	**360**	**351**	**97.5%**	**12.7**	**0.0**	**B**
Total		**2,140**	**2,133**	**99.7%**	**11.6**	**0.0**	**B**

Intersection 39 **Sterns/Sterns Connection** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	20	17	85.0%	11.4	0.0	B
	Right Turn	40	38	95.0%	4.0	0.0	A
	Subtotal	**60**	**55**	**91.7%**	**6.3**	**0.0**	**A**
SB	Left Turn	280	278	99.3%	9.3	0.0	A
	Through	20	22	110.0%	3.2	0.0	A
	Right Turn						
	Subtotal	**300**	**300**	**100.0%**	**8.9**	**0.0**	**A**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	40	39	97.5%	11.8	0.0	B
	Through						
	Right Turn	270	277	102.6%	3.2	0.0	A
	Subtotal	**310**	**316**	**101.9%**	**4.3**	**0.0**	**A**
Total		**670**	**671**	**100.1%**	**6.5**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	181	308	**333**	1	0
	Through	2,428	61	151	206	0	0
	Right Turn	2,428	61	151	206	0	0
SB	Left Turn	300	28	69	88	0	0
	Through	2,373	140	244	287	0	0
	Right Turn	2,373	140	244	287	0	0
EB	Left Turn	530	67	130	151	0	0
	Through	3,295	270	402	431	1	0
	Right Turn	410	57	142	194	0	0
WB	Left Turn	580	228	416	436	1	0
	Through	2,518	300	588	749	0	0
	Right Turn	530	29	95	125	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	44	88	106	0	0
	Through	923	31	64	81	0	0
	Right Turn						
SB	Left Turn	550	27	68	94	0	0
	Through	3,946	38	74	88	0	0
	Right Turn	3,946	41	91	124	0	0
EB	Left Turn	715	47	102	130	0	0
	Through	2,518	149	389	468	0	0
	Right Turn	355	155	284	327	0	0
WB	Left Turn	920	178	260	285	0	0
	Through	2,590	222	491	631	0	0
	Right Turn	750	14	41	56	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	46	126	**192**	0	0
	Through	464	161	258	282	6	0
	Right Turn	464	148	238	271	0	0
SB	Left Turn	290	80	184	254	0	0
	Through	5,159	236	379	423	4	0
	Right Turn	5,159	277	423	456	0	0
EB	Left Turn	250	178	**295**	**300**	5	0
	Through	5,459	136	292	385	0	0
	Right Turn	5,459	136	292	385	0	0
WB	Left Turn	90	33	**104**	**140**	1	0
	Through	491	489	**552**	**506**	64	40
	Right Turn	160	135	**279**	**220**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	109	189	216	0	0
	Right Turn						
SB	Left Turn						
	Through	464	126	254	292	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	109	173	195	0	0
	Through						
	Right Turn	672	109	173	195	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	16	41	54	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	83	162	199	0	0
	Right Turn	491	83	162	199	0	0
WB	Left Turn	530	418	**808**	**590**	0	0
	Through	3,699	1630	3614	2787	41	11
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	64	125	149	0	0
	Through	737	60	108	125	0	0
	Right Turn	737	27	64	77	0	0
SB	Left Turn	550	28	71	93	0	0
	Through	1,039	87	150	172	0	0
	Right Turn	650	76	146	187	0	0
EB	Left Turn	300	21	54	72	0	0
	Through						
	Right Turn	1,092	77	145	174	0	0
WB	Left Turn	300	74	128	158	0	0
	Through						
	Right Turn	1,084	126	208	244	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	170	**260**	**271**	4	0
	Through	3,853	207	308	351	5	0
	Right Turn	200	115	**224**	**260**	0	0
SB	Left Turn	500	111	180	200	0	0
	Through	1,480	207	303	335	0	0
	Right Turn	1,480	164	275	318	0	0
EB	Left Turn	#REF!	278	449	368	20	0
	Through	4,930	270	576	515	0	0
	Right Turn	350	66	120	147	0	0
WB	Left Turn	300	**605**	**451**	**360**	1	0
	Through	6,010	1112	2082	1861	50	0
	Right Turn	350	**379**	**504**	**410**	4	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	650	211	361	413	0	0
	Through	918	18	51	65	0	0
	Right Turn	650	52	123	172	0	0
SB	Left Turn	650	23	62	85	0	0
	Through	952	68	219	262	0	0
	Right Turn	650	213	419	464	1	0
EB	Left Turn	860	28	72	103	0	0
	Through						
	Right Turn	860	33	78	97	0	0
WB	Left Turn	500	110	178	208	0	0
	Through						
	Right Turn	901	44	96	131	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	206	291	**316**	0	0
	Through	1,262	133	224	266	0	0
	Right Turn	1,262	136	220	240	0	0
SB	Left Turn	300	57	111	138	0	0
	Through	1,262	176	303	407	0	0
	Right Turn	300	214	**343**	**346**	4	0
EB	Left Turn	300	141	222	236	0	0
	Through	1,409	197	287	326	0	0
	Right Turn	300	49	101	139	0	0
WB	Left Turn	300	137	284	**357**	0	0
	Through	3,308	332	490	522	11	0
	Right Turn	3,308	281	439	465	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	104	180	**210**	1	0
	Through	2,570	46	96	110	0	0
	Right Turn	2,570	72	143	180	0	0
SB	Left Turn	150	61	113	137	0	0
	Through	2,170	60	120	153	8	0
	Right Turn	75	54	**104**	**128**	2	0
EB	Left Turn	525	44	94	116	0	0
	Through	2,722	49	91	113	0	0
	Right Turn	2,722	49	101	128	0	0
WB	Left Turn	625	63	102	120	0	0
	Through	3,227	97	180	218	0	0
	Right Turn	3,227	116	204	242	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	43	95	117	0	0
	Through	1,181	78	132	157	0	0
	Right Turn	1,181	63	108	135	0	0
SB	Left Turn	315	57	120	160	0	0
	Through	3,988	107	223	285	0	0
	Right Turn	3,988	181	300	341	0	0
EB	Left Turn	410	58	117	149	0	0
	Through	1,731	32	78	102	0	0
	Right Turn	1,731	46	89	119	0	0
WB	Left Turn	1,878	180	284	316	0	0
	Through	1,878	15	45	67	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	320	471	487	1	0
	Through	2,052	88	154	189	0	0
	Right Turn	2,052	71	138	174	0	0
SB	Left Turn	300	41	150	198	0	0
	Through	480	287	436	**482**	9	1
	Right Turn	300	197	**355**	**359**	4	0
EB	Left Turn	1,375	178	256	278	0	0
	Through	1,375	94	164	193	0	0
	Right Turn						
WB	Left Turn	300	28	73	98	0	0
	Through	1,274	195	265	289	0	0
	Right Turn	300	17	42	51	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	81	217	**309**	0	0
	Through	1,227	246	465	560	12	0
	Right Turn	1,227	246	465	560	12	0
SB	Left Turn	175	124	**234**	**234**	3	0
	Through	1,669	218	495	588	23	0
	Right Turn	100	**105**	**189**	**160**	1	0
EB	Left Turn	3,220	88	168	198	0	0
	Through	3,220	72	146	194	0	0
	Right Turn	3,220	72	146	194	0	0
WB	Left Turn	75	45	**110**	**128**	5	0
	Through	3,356	134	245	329	29	0
	Right Turn	150	88	**176**	**208**	0	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	82	153	185	0	0
	Through	1,058	92	189	233	0	0
	Right Turn	1,058	9	45	82	0	0
SB	Left Turn	300	19	50	64	0	0
	Through	414	91	150	182	0	0
	Right Turn	414	76	144	183	0	0
EB	Left Turn	300	37	81	104	0	0
	Through	1,163	30	72	90	0	0
	Right Turn	300	67	109	131	0	0
WB	Left Turn	300	22	58	80	0	0
	Through	1,019	36	84	109	0	0
	Right Turn	300	20	46	56	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	47	83	100	0	0
	Through						
	Right Turn	150	10	32	33	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	33	69	85	0	0
	Right Turn	300	43	81	104	0	0
WB	Left Turn	400	46	87	106	0	0
	Through	873	29	69	99	0	0
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	726	128	199	233	0	0
	Through	726	74	133	151	0	0
	Right Turn	840	176	308	377	0	0
SB	Left Turn	520	37	79	101	0	0
	Through	1,217	106	181	204	0	0
	Right Turn	720	158	278	332	0	0
EB	Left Turn	800	129	202	237	0	0
	Through	1,066	273	396	433	0	0
	Right Turn	1,000	96	188	228	0	0
WB	Left Turn	1,589	123	192	214	0	0
	Through	1,589	208	304	342	0	0
	Right Turn	850	14	45	64	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	32	70	84	0	0
	Through	1,487	32	69	93	0	0
	Right Turn	1,487	32	69	93	0	0
SB	Left Turn	797	40	84	100	0	0
	Through	797	40	84	100	0	0
	Right Turn	300	13	42	58	0	0
EB	Left Turn	300	90	154	184	0	0
	Through	2,871	24	65	104	0	0
	Right Turn	2,871	24	65	104	0	0
WB	Left Turn	300	38	79	98	0	0
	Through	5,346	85	150	172	0	0
	Right Turn	5,346	85	150	172	0	0

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,498	29	57	68	7	0
	Through	1,498	29	57	68	7	0
	Right Turn	20	**21**	**52**	**59**	2	0
SB	Left Turn	1,216	32	64	80	8	0
	Through	1,216	32	64	80	8	0
	Right Turn	20	**23**	**55**	**61**	3	0
EB	Left Turn	2,720	10	43	77	0	0
	Through	2,720	10	43	77	0	0
	Right Turn	2,720	10	43	77	0	0
WB	Left Turn	2,487	5	23	41	0	0
	Through	2,487	5	23	41	0	0
	Right Turn	2,487	5	23	41	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	56	102	117	0	0
	Through	1,264	45	87	114	0	0
	Right Turn	1,264	45	87	114	0	0
SB	Left Turn	100	60	**111**	**137**	2	0
	Through	1,626	38	91	136	1	0
	Right Turn	75	44	**79**	**105**	1	0
EB	Left Turn	250	43	84	98	0	0
	Through	1,565	65	127	151	0	0
	Right Turn	1,565	78	142	173	0	0
WB	Left Turn	250	41	79	97	0	0
	Through	2,560	92	151	165	0	0
	Right Turn	300	54	104	133	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	174	262	300	0	0
	Through	1,934	178	269	291	0	0
	Right Turn	300	28	65	76	0	0
SB	Left Turn	5,862	324	485	555	0	0
	Through	5,862	324	485	555	0	0
	Right Turn	5,862	285	442	494	0	0
EB	Left Turn	50	**88**	**130**	**110**	50	0
	Through	2,671	174	350	457	33	0
	Right Turn	200	155	**253**	**260**	3	0
WB	Left Turn	300	20	58	80	0	0
	Through	2,545	147	263	326	1	0
	Right Turn	2,545	104	198	257	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	100	149	166	0	0
	Through	1,873	61	118	151	15	0
	Right Turn	50	44	**90**	**109**	2	0
SB	Left Turn	100	38	83	**105**	0	0
	Through	2,914	88	154	189	8	0
	Right Turn	100	58	**116**	**151**	0	0
EB	Left Turn	250	45	89	107	0	0
	Through	1,994	80	146	178	0	0
	Right Turn	1,994	84	160	194	0	0
WB	Left Turn	200	92	160	184	0	0
	Through	2,690	40	82	101	0	0
	Right Turn	2,690	49	104	135	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	40	89	118	0	0
	Through	1,498	174	268	294	0	0
	Right Turn	300	146	254	285	0	0
SB	Left Turn	400	78	149	191	0	0
	Through	2,124	122	227	281	0	0
	Right Turn	2,124	147	252	305	0	0
EB	Left Turn	225	42	92	112	0	0
	Through	5,602	37	81	97	0	0
	Right Turn	225	25	61	82	0	0
WB	Left Turn	225	26	69	88	0	0
	Through	2,237	76	142	178	0	0
	Right Turn	225	84	152	194	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	73	151	196	0	0
	Through	1,326	131	222	267	0	0
	Right Turn	1,326	107	207	257	0	0
SB	Left Turn	350	31	75	100	0	0
	Through	1,404	156	240	267	0	0
	Right Turn	350	22	59	78	0	0
EB	Left Turn	225	16	48	68	0	0
	Through	1,997	44	93	128	0	0
	Right Turn	225	29	64	86	0	0
WB	Left Turn	175	38	85	115	0	0
	Through	2,609	128	219	266	3	0
	Right Turn	2,609	128	219	266	3	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	53	107	136	0	0
	Through	1,357	55	110	138	0	0
	Right Turn	700	102	183	215	0	0
SB	Left Turn	600	59	123	162	0	0
	Through	1,181	54	101	117	0	0
	Right Turn	600	111	199	241	0	0
EB	Left Turn	948	41	84	104	0	0
	Through						
	Right Turn	500	31	72	89	0	0
WB	Left Turn	1,050	70	114	138	0	0
	Through						
	Right Turn	350	49	101	132	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 25 **NCC SPUI & Roselle** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	119	206	253	0	0
	Through	671	90	169	197	0	0
	Right Turn	400	62	136	170	0	0
SB	Left Turn	550	62	123	153	0	0
	Through	1,058	79	148	168	0	0
	Right Turn	550	10	41	64	0	0
EB	Left Turn	500	7	27	42	0	0
	Through						
	Right Turn	1,221	74	143	187	0	0
WB	Left Turn	500	72	118	136	0	0
	Through						
	Right Turn	1,160	47	94	112	0	0

Intersection 26 **Crane Rd & NCC** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	150	30	72	89	0	0
	Through	914	35	82	114	0	0
	Right Turn	300	60	127	162	0	0
SB	Left Turn	275	51	104	127	0	0
	Through	2,750	33	79	108	0	0
	Right Turn	2,750	122	200	240	0	0
EB	Left Turn	1,599	165	260	303	0	0
	Through	1,599	126	224	258	0	0
	Right Turn	630	5	21	42	0	0
WB	Left Turn	930	39	95	120	0	0
	Through	1,340	131	221	249	0	0
	Right Turn	630	16	47	66	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 27 **Albers Rd & NCC** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	35	142	**249**	0	0
	Through	2,124	294	506	536	28	0
	Right Turn	300	99	287	**393**	0	0
SB	Left Turn	200	33	78	98	0	0
	Through	2,188	130	204	248	1	0
	Right Turn	500	45	95	128	0	0
EB	Left Turn	1,587	292	463	510	0	0
	Through	1,587	83	158	194	0	0
	Right Turn	750	30	78	102	0	0
WB	Left Turn	720	103	168	192	0	0
	Through	4,484	204	324	350	0	0
	Right Turn	670	39	95	136	0	0

Intersection 28 **NCC & Sterns Connection** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	407	24	64	84	0	0
	Through	407	24	64	84	0	0
	Right Turn	407	11	43	66	0	0
SB	Left Turn	838	11	40	55	0	0
	Through	838	11	40	55	0	0
	Right Turn	838	48	94	111	0	0
EB	Left Turn	2,821	34	92	124	0	0
	Through	2,821	34	92	124	0	0
	Right Turn	2,821	15	54	84	0	0
WB	Left Turn	3,949	50	93	113	0	0
	Through	3,949	50	93	113	0	0
	Right Turn	3,949	39	81	98	0	0

Intersection 29 **NCC & SR 120/108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	3,949	5	27	55	0	0
	Through	3,949	5	27	55	0	0
	Right Turn	3,949	9	46	86	0	0
SB	Left Turn	267	46	91	109	0	0
	Through	267	46	91	109	0	0
	Right Turn	267	46	91	109	0	0
EB	Left Turn	2,190	58	100	118	0	0
	Through	2,190	58	100	118	0	0
	Right Turn	2,190	0	14	14	0	0
WB	Left Turn	1,153	70	164	211	0	0
	Through	1,153	70	164	211	0	0
	Right Turn	1,153	11	66	130	0	0

Intersection 30 **SR 108 (McHenry Ave)#2 & Charity** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	54	103	126	0	0
	Through	1,039	36	89	108	0	0
	Right Turn	300	4	22	43	0	0
SB	Left Turn	300	20	56	75	0	0
	Through	2,422	62	123	148	0	0
	Right Turn	300	7	31	55	0	0
EB	Left Turn	300	22	57	78	0	0
	Through	882	25	57	66	0	0
	Right Turn	882	25	57	66	0	0
WB	Left Turn	300	15	46	65	0	0
	Through	1,216	16	44	61	0	0
	Right Turn	1,216	16	44	61	0	0

Intersection 31 **SR 108 (McHenry Ave)#3 & Galaxy Way** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	29	68	91	0	0
	Through	834	83	148	184	0	0
	Right Turn	400	34	68	77	0	0
SB	Left Turn	450	57	96	120	0	0
	Through	757	102	168	210	0	0
	Right Turn	757	21	55	73	0	0
EB	Left Turn	300	25	65	84	0	0
	Through	429	25	58	76	0	0
	Right Turn	429	25	58	76	0	0
WB	Left Turn	300	65	127	163	0	0
	Through	638	60	108	132	0	0
	Right Turn	638	60	108	132	0	0

Intersection 32 **Coffee Rd & Frontage Road North** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	36	77	97	0	0
	Through	952	41	87	103	0	0
	Right Turn	300	16	44	60	0	0
SB	Left Turn	300	38	80	98	0	0
	Through	1,349	93	171	201	0	0
	Right Turn	300	18	48	66	0	0
EB	Left Turn	300	33	73	90	0	0
	Through	1,233	30	65	84	0	0
	Right Turn	1,233	30	65	84	0	0
WB	Left Turn	300	51	102	141	0	0
	Through	2,054	22	53	71	0	0
	Right Turn	2,054	22	53	71	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 33 **Coffee Rd & Frontage Road South** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	38	80	103	0	0
	Through	1,003	116	205	255	0	0
	Right Turn	300	17	46	64	0	0
SB	Left Turn	300	66	120	144	0	0
	Through	918	69	127	152	0	0
	Right Turn	300	29	67	83	0	0
EB	Left Turn	300	55	114	154	0	0
	Through	672	16	45	71	0	0
	Right Turn	672	16	45	71	0	0
WB	Left Turn	300	35	75	98	0	0
	Through	1,095	53	97	113	0	0
	Right Turn	1,095	53	97	113	0	0

Intersection 34 **Oakdale Rd & Frontage Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	29	67	79	0	0
	Through	370	129	240	288	0	0
	Right Turn	300	15	42	59	0	0
SB	Left Turn	300	33	76	96	0	0
	Through	1,357	77	134	160	0	0
	Right Turn	1,357	10	35	54	0	0
EB	Left Turn	300	66	119	148	0	0
	Through	636	48	91	118	0	0
	Right Turn	636	48	91	118	0	0
WB	Left Turn	300	57	110	131	0	0
	Through	496	53	94	110	0	0
	Right Turn	496	53	94	110	0	0

Intersection 35 **Roselle & Frontage Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	704	116	215	252	0	0
	Right Turn	704	96	184	235	0	0
SB	Left Turn	300	40	84	106	0	0
	Through	671	84	149	176	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	300	33	71	88	0	0
	Through						
	Right Turn	1,664	95	161	185	0	0

Intersection 36 **Claribel Realigned (N)** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	50	1	14	30	0	0
	Through						
	Right Turn						
SB	Left Turn	50	1	11	23	0	0
	Through	1,110	0	6	6	0	0
	Right Turn	1,110	0	6	6	0	0
EB	Left Turn	662	21	52	62	0	0
	Through	662	21	52	62	0	0
	Right Turn	662	21	52	62	0	0
WB	Left Turn	702	23	54	66	0	0
	Through	702	23	54	66	0	0
	Right Turn	702	23	54	66	0	0

Intersection 37 **Claus Rd & Claribel Realigned (N)** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	450	32	72	94	0	0
	Through	1,217	43	105	140	0	0
	Right Turn	1,217	84	164	219	0	0
SB	Left Turn	300	31	71	93	0	0
	Through	1,028	46	98	123	0	0
	Right Turn	1,028	78	149	175	0	0
EB	Left Turn	400	28	63	78	0	0
	Through	1,110	40	78	99	0	0
	Right Turn	1,110	40	78	99	0	0
WB	Left Turn	417	68	125	155	0	0
	Through	417	68	125	155	0	0
	Right Turn	417	68	125	155	0	0

Intersection 38 **New Claribel Road (S) & Claus Rd** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	1,878	159	261	289	0	0
	Right Turn	300	21	59	77	0	0
SB	Left Turn	890	61	104	125	0	0
	Through	1,205	85	159	194	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	437	48	98	121	0	0
	Through						
	Right Turn	300	86	154	206	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **AM Peak Hour**

Intersection 39 **Sterns & Sterns Connection** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft)	95th Queue (ft)	Maximum Queue (ft)	Block Time %	
			Average	Average	Average	Pocket	Upstream
NB	Left Turn						
	Through	795	28	60	74	0	0
	Right Turn	795	28	60	74	0	0
SB	Left Turn	300	84	142	167	0	0
	Through	801	3	21	46	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	838	25	61	77	0	0
	Through						
	Right Turn	838	47	82	96	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	160	165	103.1%	70.4	0.0	E
	Through	110	109	99.1%	73.1	0.0	E
	Right Turn	190	184	96.8%	53.1	0.0	D
	Subtotal	**460**	**458**	**99.6%**	**64.1**	**0.0**	**E**
SB	Left Turn	150	150	100.0%	63.5	0.0	E
	Through	90	93	103.3%	41.9	0.0	D
	Right Turn	20	21	105.0%	25.2	0.0	C
	Subtotal	**260**	**264**	**101.5%**	**52.8**	**0.0**	**D**
EB	Left Turn	60	53	88.3%	59.4	0.0	E
	Through	1,670	1,683	100.8%	55.9	0.0	E
	Right Turn	270	265	98.1%	21.8	0.0	C
	Subtotal	**2,000**	**2,001**	**100.1%**	**51.5**	**0.0**	**D**
WB	Left Turn	200	195	97.5%	80.6	0.0	F
	Through	1,760	1,762	100.1%	31.2	0.0	C
	Right Turn	100	102	102.0%	14.0	0.0	B
	Subtotal	**2,060**	**2,059**	**100.0%**	**35.0**	**0.0**	**C**
Total		**4,780**	**4,782**	**100.0%**	**45.7**	**0.0**	**D**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	600	595	99.2%	67.1	0.0	E
	Through	220	226	102.7%	41.7	0.0	D
	Right Turn	820	828	101.0%	8.7	0.0	A
	Subtotal	**1,640**	**1,649**	**100.5%**	**34.3**	**0.0**	**C**
SB	Left Turn	130	127	97.7%	63.3	0.0	E
	Through	210	219	104.3%	147.5	0.0	F
	Right Turn	40	39	97.5%	77.4	0.0	E
	Subtotal	**380**	**385**	**101.3%**	**112.6**	**0.0**	**F**
EB	Left Turn	30	30	100.0%	57.0	0.0	E
	Through	1,620	1,603	99.0%	59.6	0.0	E
	Right Turn	360	359	99.7%	32.9	0.0	C
	Subtotal	**2,010**	**1,992**	**99.1%**	**54.7**	**0.0**	**D**
WB	Left Turn	600	580	96.7%	66.3	0.0	E
	Through	1,420	1,413	99.5%	18.2	0.0	B
	Right Turn	90	87	96.7%	4.6	0.0	A
	Subtotal	**2,110**	**2,080**	**98.6%**	**31.0**	**0.0**	**C**
Total		**6,140**	**6,106**	**99.4%**	**44.8**	**0.0**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	81	101.3%	62.3	0.0	E
	Through	520	515	99.0%	40.4	0.0	D
	Right Turn	20	19	95.0%	29.6	0.0	C
	Subtotal	**620**	**615**	**99.2%**	**43.0**	**0.0**	**D**
SB	Left Turn	410	286	69.8%	756.2	0.0	F
	Through	610	587	96.2%	75.4	0.0	E
	Right Turn	300	303	101.0%	68.8	0.0	E
	Subtotal	**1,320**	**1,176**	**89.1%**	**239.3**	**0.0**	**F**
EB	Left Turn	270	225	83.3%	497.6	0.0	F
	Through	240	195	81.3%	404.9	0.0	F
	Right Turn	40	35	87.5%	398.8	0.0	F
	Subtotal	**550**	**455**	**82.7%**	**450.3**	**0.0**	**F**
WB	Left Turn	20	22	110.0%	78.1	0.0	E
	Through	370	368	99.5%	56.0	0.0	E
	Right Turn	100	100	100.0%	20.1	0.0	C
	Subtotal	**490**	**490**	**100.0%**	**49.7**	**0.0**	**D**
Total		**2,980**	**2,736**	**91.8%**	**196.3**	**0.0**	**F**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	600	589	98.2%	8.9	0.0	A
	Right Turn	360	364	101.1%	1.1	0.0	A
	Subtotal	**960**	**953**	**99.3%**	**5.9**	**0.0**	**A**
SB	Left Turn						
	Through	670	646	96.4%	12.6	0.0	B
	Right Turn						
	Subtotal	**670**	**646**	**96.4%**	**12.6**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	140	145	103.6%	19.9	0.0	B
	Through	20	22	110.0%	4.9	0.0	A
	Right Turn						
	Subtotal	**160**	**167**	**104.4%**	**17.9**	**0.0**	**B**
Total		**1,790**	**1,766**	**98.7%**	**9.5**	**0.0**	**A**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	360	364	101.1%	7.6	0.0	A
	Subtotal	**360**	**364**	**101.1%**	**7.6**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	650	486	74.8%	31.0	0.0	C
	Right Turn	20	18	90.0%	15.3	0.0	B
	Subtotal	**670**	**504**	**75.2%**	**30.4**	**0.0**	**C**
WB	Left Turn	140	148	105.7%	21.9	0.0	C
	Through	490	486	99.2%	5.9	0.0	A
	Right Turn						
	Subtotal	**630**	**634**	**100.6%**	**9.6**	**0.0**	**A**
Total		**1,660**	**1,502**	**90.5%**	**16.1**	**0.0**	**B**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	200	192	96.0%	19.1	0.0	B
	Through	690	689	99.9%	16.6	0.0	B
	Right Turn	880	881	100.1%	10.6	0.0	B
	Subtotal	**1,770**	**1,762**	**99.5%**	**13.9**	**0.0**	**B**
SB	Left Turn	130	129	99.2%	23.0	0.0	C
	Through	560	559	99.8%	25.7	0.0	C
	Right Turn	230	237	103.0%	11.2	0.0	B
	Subtotal	**920**	**925**	**100.5%**	**21.6**	**0.0**	**C**
EB	Left Turn	210	211	100.5%	25.0	0.0	C
	Through						
	Right Turn	340	343	100.9%	23.7	0.0	C
	Subtotal	**550**	**554**	**100.7%**	**24.2**	**0.0**	**C**
WB	Left Turn	330	329	99.7%	26.5	0.0	C
	Through						
	Right Turn	240	242	100.8%	25.5	0.0	C
	Subtotal	**570**	**571**	**100.2%**	**26.1**	**0.0**	**C**
Total		**3,810**	**3,812**	**100.1%**	**19.1**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	400	324	81.0%	538.1	0.0	F
	Through	1,290	1,066	82.6%	475.0	0.0	F
	Right Turn	290	245	84.5%	436.4	0.0	F
	Subtotal	**1,980**	**1,635**	**82.6%**	**481.7**	**0.0**	**F**
SB	Left Turn	730	729	99.9%	96.7	0.0	F
	Through	1,360	1,354	99.6%	60.9	0.0	E
	Right Turn	300	307	102.3%	64.7	0.0	E
	Subtotal	**2,390**	**2,390**	**100.0%**	**72.3**	**0.0**	**E**
EB	Left Turn	390	249	63.8%	693.6	0.0	F
	Through	1,970	1,267	64.3%	735.3	0.0	F
	Right Turn	440	286	65.0%	708.9	0.0	F
	Subtotal	**2,800**	**1,802**	**64.4%**	**725.3**	**0.0**	**F**
WB	Left Turn	440	296	67.3%	853.0	0.0	F
	Through	990	942	95.2%	68.2	0.0	E
	Right Turn	300	280	93.3%	16.4	0.0	B
	Subtotal	**1,730**	**1,518**	**87.7%**	**211.7**	**0.0**	**F**
Total		**8,900**	**7,345**	**82.5%**	**352.5**	**0.0**	**F**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	280	276	98.6%	24.0	0.0	C
	Through	260	261	100.4%	12.6	0.0	B
	Right Turn	470	469	99.8%	16.0	0.0	B
	Subtotal	**1,010**	**1,006**	**99.6%**	**17.3**	**0.0**	**B**
SB	Left Turn	50	48	96.0%	32.9	0.0	C
	Through	220	218	99.1%	21.3	0.0	C
	Right Turn	270	270	100.0%	16.4	0.0	B
	Subtotal	**540**	**536**	**99.3%**	**19.9**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,550**	**1,542**	**99.5%**	**18.2**	**0.0**	**B**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	340	344	101.2%	58.5	0.0	E
	Through	530	529	99.8%	56.5	0.0	E
	Right Turn	170	171	100.6%	43.8	0.0	D
	Subtotal	**1,040**	**1,044**	**100.4%**	**55.1**	**0.0**	**E**
SB	Left Turn	180	186	103.3%	64.9	0.0	E
	Through	200	198	99.0%	40.2	0.0	D
	Right Turn	400	399	99.8%	26.3	0.0	C
	Subtotal	**780**	**783**	**100.4%**	**39.0**	**0.0**	**D**
EB	Left Turn	480	464	96.7%	132.6	0.0	F
	Through	1,860	1,822	98.0%	126.1	0.0	F
	Right Turn	560	550	98.2%	64.1	0.0	E
	Subtotal	**2,900**	**2,836**	**97.8%**	**115.1**	**0.0**	**F**
WB	Left Turn	200	203	101.5%	87.1	0.0	F
	Through	1,030	1,025	99.5%	36.8	0.0	D
	Right Turn	120	118	98.3%	19.8	0.0	B
	Subtotal	**1,350**	**1,346**	**99.7%**	**42.9**	**0.0**	**D**
Total		**6,070**	**6,009**	**99.0%**	**78.6**	**0.0**	**E**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	190	193	101.6%	53.2	0.0	D
	Through	110	106	96.4%	33.1	0.0	C
	Right Turn	210	204	97.1%	36.6	0.0	D
	Subtotal	**510**	**503**	**98.6%**	**42.2**	**0.0**	**D**
SB	Left Turn	60	55	91.7%	55.9	0.0	E
	Through	80	78	97.5%	42.5	0.0	D
	Right Turn	70	70	100.0%	7.2	0.0	A
	Subtotal	**210**	**203**	**96.7%**	**34.0**	**0.0**	**C**
EB	Left Turn	110	112	101.8%	50.3	0.0	D
	Through	680	682	100.3%	25.9	0.0	C
	Right Turn	150	155	103.3%	20.8	0.0	C
	Subtotal	**940**	**949**	**101.0%**	**27.9**	**0.0**	**C**
WB	Left Turn	350	352	100.6%	50.6	0.0	D
	Through	330	336	101.8%	19.7	0.0	B
	Right Turn	50	53	106.0%	12.3	0.0	B
	Subtotal	**730**	**741**	**101.5%**	**33.8**	**0.0**	**C**
Total		**2,390**	**2,396**	**100.3%**	**33.3**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	170	170	100.0%	46.6	0.0	D
	Through	620	616	99.4%	24.1	0.0	C
	Right Turn	560	544	97.1%	11.9	0.0	B
	Subtotal	**1,350**	**1,330**	**98.5%**	**22.0**	**0.0**	**C**
SB	Left Turn	80	84	105.0%	50.7	0.0	D
	Through	620	624	100.6%	35.4	0.0	D
	Right Turn	50	51	102.0%	32.0	0.0	C
	Subtotal	**750**	**759**	**101.2%**	**36.9**	**0.0**	**D**
EB	Left Turn	90	92	102.2%	29.9	0.0	C
	Through	20	20	100.0%	45.0	0.0	D
	Right Turn	140	137	97.9%	11.4	0.0	B
	Subtotal	**250**	**249**	**99.6%**	**20.9**	**0.0**	**C**
WB	Left Turn	400	405	101.3%	35.7	0.0	D
	Through	20	19	95.0%	46.7	0.0	D
	Right Turn	70	73	104.3%	3.8	0.0	A
	Subtotal	**490**	**497**	**101.4%**	**31.4**	**0.0**	**C**
Total		**2,840**	**2,835**	**99.8%**	**27.5**	**0.0**	**C**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	590	585	99.2%	46.1	0.0	D
	Through	710	725	102.1%	21.4	0.0	C
	Right Turn	100	101	101.0%	15.6	0.0	B
	Subtotal	**1,400**	**1,411**	**100.8%**	**31.2**	**0.0**	**C**
SB	Left Turn	30	32	106.7%	61.5	0.0	E
	Through	640	642	100.3%	44.3	0.0	D
	Right Turn	290	290	100.0%	8.9	0.0	A
	Subtotal	**960**	**964**	**100.4%**	**34.2**	**0.0**	**C**
EB	Left Turn	350	354	101.1%	52.1	0.0	D
	Through	800	790	98.8%	41.8	0.0	D
	Right Turn	1,080	1,084	100.4%	11.6	0.0	B
	Subtotal	**2,230**	**2,228**	**99.9%**	**28.7**	**0.0**	**C**
WB	Left Turn	60	55	91.7%	62.4	0.0	E
	Through	500	498	99.6%	44.9	0.0	D
	Right Turn	40	38	95.0%	8.8	0.0	A
	Subtotal	**600**	**591**	**98.5%**	**44.2**	**0.0**	**D**
Total		**5,190**	**5,194**	**100.1%**	**32.2**	**0.0**	**C**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	69	98.6%	82.5	0.0	F
	Through	310	314	101.3%	104.5	0.0	F
	Right Turn	50	53	106.0%	99.5	0.0	F
	Subtotal	**430**	**436**	**101.4%**	**100.4**	**0.0**	**F**
SB	Left Turn	270	266	98.5%	62.2	0.0	E
	Through	200	197	98.5%	56.4	0.0	E
	Right Turn	150	155	103.3%	22.6	0.0	C
	Subtotal	**620**	**618**	**99.7%**	**50.4**	**0.0**	**D**
EB	Left Turn	290	294	101.4%	72.6	0.0	E
	Through	360	353	98.1%	35.5	0.0	D
	Right Turn	40	39	97.5%	27.6	0.0	C
	Subtotal	**690**	**686**	**99.4%**	**51.0**	**0.0**	**D**
WB	Left Turn	50	50	100.0%	68.6	0.0	E
	Through	170	174	102.4%	45.1	0.0	D
	Right Turn	150	150	100.0%	16.4	0.0	B
	Subtotal	**370**	**374**	**101.1%**	**36.7**	**0.0**	**D**
Total		**2,110**	**2,114**	**100.2%**	**58.5**	**0.0**	**E**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	230	232	100.9%	35.4	0.0	D
	Through	490	475	96.9%	22.6	0.0	C
	Right Turn	80	84	105.0%	6.1	0.0	A
	Subtotal	**800**	**791**	**98.9%**	**24.6**	**0.0**	**C**
SB	Left Turn	40	40	100.0%	35.0	0.0	C
	Through	410	406	99.0%	23.1	0.0	C
	Right Turn	30	28	93.3%	11.4	0.0	B
	Subtotal	**480**	**474**	**98.8%**	**23.4**	**0.0**	**C**
EB	Left Turn	20	17	85.0%	34.3	0.0	C
	Through	180	177	98.3%	27.3	0.0	C
	Right Turn	200	201	100.5%	7.3	0.0	A
	Subtotal	**400**	**395**	**98.8%**	**17.4**	**0.0**	**B**
WB	Left Turn	80	79	98.8%	36.9	0.0	D
	Through	60	62	103.3%	18.1	0.0	B
	Right Turn	20	22	110.0%	2.5	0.0	A
	Subtotal	**160**	**163**	**101.9%**	**25.1**	**0.0**	**C**
Total		**1,840**	**1,823**	**99.1%**	**22.8**	**0.0**	**C**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	94	94.0%	12.3	0.0	B
	Through						
	Right Turn	80	83	103.8%	4.0	0.0	A
	Subtotal	**180**	**177**	**98.3%**	**8.4**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	490	483	98.6%	7.0	0.0	A
	Right Turn	220	225	102.3%	4.1	0.0	A
	Subtotal	**710**	**708**	**99.7%**	**6.1**	**0.0**	**A**
WB	Left Turn	40	41	102.5%	13.9	0.0	B
	Through	220	227	103.2%	3.2	0.0	A
	Right Turn						
	Subtotal	**260**	**268**	**103.1%**	**4.8**	**0.0**	**A**
Total		**1,150**	**1,153**	**100.3%**	**6.1**	**0.0**	**A**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	580	577	99.5%	71.1	0.0	E
	Through	280	282	100.7%	33.0	0.0	C
	Right Turn	450	462	102.7%	17.3	0.0	B
	Subtotal	**1,310**	**1,321**	**100.8%**	**44.2**	**0.0**	**D**
SB	Left Turn	50	48	96.0%	54.8	0.0	D
	Through	390	389	99.7%	64.1	0.0	E
	Right Turn	360	354	98.3%	30.4	0.0	C
	Subtotal	**800**	**791**	**98.9%**	**48.5**	**0.0**	**D**
EB	Left Turn	350	348	99.4%	62.4	0.0	E
	Through	1,350	1,337	99.0%	59.9	0.0	E
	Right Turn	430	432	100.5%	15.5	0.0	B
	Subtotal	**2,130**	**2,117**	**99.4%**	**51.3**	**0.0**	**D**
WB	Left Turn	760	760	100.0%	93.6	0.0	F
	Through	1,310	1,310	100.0%	37.2	0.0	D
	Right Turn	100	104	104.0%	7.3	0.0	A
	Subtotal	**2,170**	**2,174**	**100.2%**	**55.5**	**0.0**	**E**
Total		**6,410**	**6,403**	**99.9%**	**50.9**	**0.0**	**D**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	48	96.0%	23.3	0.0	C
	Through	10	10	100.0%	11.5	0.0	B
	Right Turn	50	48	96.0%	4.0	0.0	A
	Subtotal	**110**	**106**	**96.4%**	**13.4**	**0.0**	**B**
SB	Left Turn	100	100	100.0%	13.4	0.0	B
	Through	10	11	110.0%	14.2	0.0	B
	Right Turn	320	315	98.4%	8.0	0.0	A
	Subtotal	**430**	**426**	**99.1%**	**9.4**	**0.0**	**A**
EB	Left Turn	200	196	98.0%	20.8	0.0	C
	Through	180	182	101.1%	12.8	0.0	B
	Right Turn	50	57	114.0%	5.7	0.0	A
	Subtotal	**430**	**435**	**101.2%**	**15.5**	**0.0**	**B**
WB	Left Turn	50	50	100.0%	25.0	0.0	C
	Through	180	177	98.3%	21.0	0.0	C
	Right Turn	50	52	104.0%	9.5	0.0	A
	Subtotal	**280**	**279**	**99.6%**	**19.6**	**0.0**	**B**
Total		**1,250**	**1,246**	**99.7%**	**14.2**	**0.0**	**B**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	29	96.7%	8.6	0.0	A
	Through	40	40	100.0%	12.4	0.0	B
	Right Turn	40	45	112.5%	4.8	0.0	A
	Subtotal	**110**	**114**	**103.6%**	**8.4**	**0.0**	**A**
SB	Left Turn	40	40	100.0%	7.6	0.0	A
	Through	30	28	93.3%	12.0	0.0	B
	Right Turn	20	22	110.0%	3.9	0.0	A
	Subtotal	**90**	**90**	**100.0%**	**8.1**	**0.0**	**A**
EB	Left Turn	20	21	105.0%	3.8	0.0	A
	Through	270	269	99.6%	2.7	0.0	A
	Right Turn	30	30	100.0%	2.4	0.0	A
	Subtotal	**320**	**320**	**100.0%**	**2.7**	**0.0**	**A**
WB	Left Turn	40	42	105.0%	2.5	0.0	A
	Through	140	142	101.4%	2.5	0.0	A
	Right Turn	40	45	112.5%	0.8	0.0	A
	Subtotal	**220**	**229**	**104.1%**	**2.2**	**0.0**	**A**
Total		**740**	**753**	**101.8%**	**4.1**	**0.0**	**A**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	110	100.0%	20.8	0.0	C
	Through	60	59	98.3%	16.3	0.0	B
	Right Turn	80	83	103.8%	8.0	0.0	A
	Subtotal	**250**	**252**	**100.8%**	**15.5**	**0.0**	**B**
SB	Left Turn	100	97	97.0%	21.4	0.0	C
	Through	60	58	96.7%	16.2	0.0	B
	Right Turn	110	109	99.1%	5.7	0.0	A
	Subtotal	**270**	**264**	**97.8%**	**13.8**	**0.0**	**B**
EB	Left Turn	100	104	104.0%	26.9	0.0	C
	Through	540	527	97.6%	12.0	0.0	B
	Right Turn	50	54	108.0%	7.0	0.0	A
	Subtotal	**690**	**685**	**99.3%**	**13.9**	**0.0**	**B**
WB	Left Turn	40	43	107.5%	31.9	0.0	C
	Through	570	561	98.4%	17.5	0.0	B
	Right Turn	80	83	103.8%	9.7	0.0	A
	Subtotal	**690**	**687**	**99.6%**	**17.5**	**0.0**	**B**
Total		**1,900**	**1,888**	**99.4%**	**15.4**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	120	124	103.3%	48.2	0.0	D
	Through	550	558	101.5%	51.2	0.0	D
	Right Turn	30	34	113.3%	10.3	0.0	B
	Subtotal	**700**	**716**	**102.3%**	**48.7**	**0.0**	**D**
SB	Left Turn	340	332	97.6%	59.3	0.0	E
	Through	440	446	101.4%	53.7	0.0	D
	Right Turn	80	79	98.8%	48.2	0.0	D
	Subtotal	**860**	**857**	**99.7%**	**55.4**	**0.0**	**E**
EB	Left Turn	110	103	93.6%	73.4	0.0	E
	Through	350	361	103.1%	33.6	0.0	C
	Right Turn	70	71	101.4%	25.4	0.0	C
	Subtotal	**530**	**535**	**100.9%**	**40.2**	**0.0**	**D**
WB	Left Turn	20	24	120.0%	54.3	0.0	D
	Through	320	321	100.3%	63.0	0.0	E
	Right Turn	420	427	101.7%	19.1	0.0	B
	Subtotal	**760**	**772**	**101.6%**	**38.4**	**0.0**	**D**
Total		**2,850**	**2,880**	**101.1%**	**46.4**	**0.0**	**D**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	150	146	97.3%	34.9	0.0	C
	Through	170	169	99.4%	23.4	0.0	C
	Right Turn	180	180	100.0%	7.5	0.0	A
	Subtotal	**500**	**495**	**99.0%**	**21.0**	**0.0**	**C**
SB	Left Turn	60	60	100.0%	37.2	0.0	D
	Through	140	138	98.6%	26.4	0.0	C
	Right Turn	130	130	100.0%	9.2	0.0	A
	Subtotal	**330**	**328**	**99.4%**	**21.6**	**0.0**	**C**
EB	Left Turn	120	123	102.5%	33.2	0.0	C
	Through	260	255	98.1%	19.2	0.0	B
	Right Turn	170	168	98.8%	10.4	0.0	B
	Subtotal	**550**	**546**	**99.3%**	**19.6**	**0.0**	**B**
WB	Left Turn	130	124	95.4%	32.5	0.0	C
	Through	380	385	101.3%	20.3	0.0	C
	Right Turn	60	64	106.7%	12.8	0.0	B
	Subtotal	**570**	**573**	**100.5%**	**22.1**	**0.0**	**C**
Total		**1,950**	**1,942**	**99.6%**	**21.0**	**0.0**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	40	42	105.0%	44.0	0.0	D
	Through	560	562	100.4%	46.1	0.0	D
	Right Turn	30	31	103.3%	36.6	0.0	D
	Subtotal	**630**	**635**	**100.8%**	**45.5**	**0.0**	**D**
SB	Left Turn	390	387	99.2%	48.8	0.0	D
	Through	640	645	100.8%	25.3	0.0	C
	Right Turn	60	63	105.0%	20.3	0.0	C
	Subtotal	**1,090**	**1,095**	**100.5%**	**33.3**	**0.0**	**C**
EB	Left Turn	80	78	97.5%	45.7	0.0	D
	Through	230	233	101.3%	38.2	0.0	D
	Right Turn	30	32	106.7%	9.6	0.0	A
	Subtotal	**340**	**343**	**100.9%**	**37.2**	**0.0**	**D**
WB	Left Turn	20	20	100.0%	41.1	0.0	D
	Through	40	39	97.5%	36.5	0.0	D
	Right Turn	230	235	102.2%	9.4	0.0	A
	Subtotal	**290**	**294**	**101.4%**	**15.2**	**0.0**	**B**
Total		**2,350**	**2,367**	**100.7%**	**34.9**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	101	101.0%	33.6	0.0	C
	Through	660	664	100.6%	14.2	0.0	B
	Right Turn	50	50	100.0%	8.5	0.0	A
	Subtotal	**810**	**815**	**100.6%**	**16.3**	**0.0**	**B**
SB	Left Turn	30	28	93.3%	34.2	0.0	C
	Through	590	579	98.1%	18.6	0.0	B
	Right Turn	20	22	110.0%	6.0	0.0	A
	Subtotal	**640**	**629**	**98.3%**	**18.9**	**0.0**	**B**
EB	Left Turn	20	19	95.0%	42.1	0.0	D
	Through	160	159	99.4%	30.2	0.0	C
	Right Turn	170	173	101.8%	8.0	0.0	A
	Subtotal	**350**	**351**	**100.3%**	**19.9**	**0.0**	**B**
WB	Left Turn	40	37	92.5%	37.5	0.0	D
	Through	100	98	98.0%	25.7	0.0	C
	Right Turn	30	30	100.0%	12.1	0.0	B
	Subtotal	**170**	**165**	**97.1%**	**25.9**	**0.0**	**C**
Total		**1,970**	**1,960**	**99.5%**	**18.6**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	20	100.0%	23.5	0.0	C
	Through	480	464	96.7%	19.6	0.0	B
	Right Turn	400	400	100.0%	13.2	0.0	B
	Subtotal	**900**	**884**	**98.2%**	**16.8**	**0.0**	**B**
SB	Left Turn	140	141	100.7%	26.0	0.0	C
	Through	600	593	98.8%	17.9	0.0	B
	Right Turn	420	430	102.4%	10.7	0.0	B
	Subtotal	**1,160**	**1,164**	**100.3%**	**16.2**	**0.0**	**B**
EB	Left Turn	670	666	99.4%	22.7	0.0	C
	Through						
	Right Turn	160	156	97.5%	30.2	0.0	C
	Subtotal	**830**	**822**	**99.0%**	**24.1**	**0.0**	**C**
WB	Left Turn	300	292	97.3%	17.3	0.0	B
	Through						
	Right Turn	200	202	101.0%	26.4	0.0	C
	Subtotal	**500**	**494**	**98.8%**	**21.0**	**0.0**	**C**
Total		**3,390**	**3,364**	**99.2%**	**19.0**	**0.0**	**B**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	170	172	101.2%	18.3	0.0	B
	Through	580	566	97.6%	13.5	0.0	B
	Right Turn	270	269	99.6%	7.4	0.0	A
	Subtotal	**1,020**	**1,007**	**98.7%**	**12.7**	**0.0**	**B**
SB	Left Turn	100	101	101.0%	25.3	0.0	C
	Through	540	534	98.9%	18.5	0.0	B
	Right Turn	50	53	106.0%	6.9	0.0	A
	Subtotal	**690**	**688**	**99.7%**	**18.6**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,710**	**1,695**	**99.1%**	**15.1**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	20	100.0%	47.0	0.0	D
	Through	50	49	98.0%	42.2	0.0	D
	Right Turn	240	238	99.2%	12.8	0.0	B
	Subtotal	**310**	**307**	**99.0%**	**19.7**	**0.0**	**B**
SB	Left Turn	60	61	101.7%	58.4	0.0	E
	Through	90	90	100.0%	36.6	0.0	D
	Right Turn	820	830	101.2%	17.3	0.0	B
	Subtotal	**970**	**981**	**101.1%**	**21.6**	**0.0**	**C**
EB	Left Turn	800	790	98.8%	45.5	0.0	D
	Through	1,000	998	99.8%	20.6	0.0	C
	Right Turn	50	51	102.0%	5.3	0.0	A
	Subtotal	**1,850**	**1,839**	**99.4%**	**30.9**	**0.0**	**C**
WB	Left Turn	240	235	97.9%	44.3	0.0	D
	Through	1,320	1,330	100.8%	39.7	0.0	D
	Right Turn	80	82	102.5%	12.0	0.0	B
	Subtotal	**1,640**	**1,647**	**100.4%**	**39.0**	**0.0**	**D**
Total		**4,770**	**4,774**	**100.1%**	**31.1**	**0.0**	**C**

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	20	100.0%	58.6	0.0	E
	Through	530	536	101.1%	39.1	0.0	D
	Right Turn	320	320	100.0%	20.3	0.0	C
	Subtotal	**870**	**876**	**100.7%**	**32.7**	**0.0**	**C**
SB	Left Turn	100	96	96.0%	58.9	0.0	E
	Through	790	802	101.5%	34.9	0.0	C
	Right Turn	1,090	1,082	99.3%	19.9	0.0	B
	Subtotal	**1,980**	**1,980**	**100.0%**	**27.9**	**0.0**	**C**
EB	Left Turn	630	631	100.2%	48.4	0.0	D
	Through	630	632	100.3%	29.6	0.0	C
	Right Turn	40	37	92.5%	7.5	0.0	A
	Subtotal	**1,300**	**1,300**	**100.0%**	**38.1**	**0.0**	**D**
WB	Left Turn	260	257	98.8%	43.5	0.0	D
	Through	570	576	101.1%	48.2	0.0	D
	Right Turn						
	Subtotal	**830**	**833**	**100.4%**	**46.7**	**0.0**	**D**
Total		**4,980**	**4,989**	**100.2%**	**34.5**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	330	172	0	**337**	0	**380**	0	1	0
	Through	2,428	238	0	449	0	552	0	6	0
	Right Turn	2,428	238	0	449	0	552	0	6	0
SB	Left Turn	300	134	0	249	0	282	0	1	0
	Through	2,373	83	0	188	0	257	0	0	0
	Right Turn	2,373	83	0	188	0	257	0	0	0
EB	Left Turn	530	69	0	228	0	365	0	0	0
	Through	3,295	408	0	692	0	713	0	11	0
	Right Turn	410	167	0	**441**	0	**470**	0	0	0
WB	Left Turn	580	198	0	366	0	369	0	0	0
	Through	2,518	266	0	407	0	476	0	0	0
	Right Turn	530	32	0	71	0	94	0	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	923	191	0	309	0	300	0	0	0
	Through	923	72	0	123	0	150	0	0	0
	Right Turn									
SB	Left Turn	550	117	0	219	0	269	0	0	0
	Through	3,946	138	0	256	0	262	0	0	0
	Right Turn	3,946	107	0	244	0	241	0	0	0
EB	Left Turn	715	28	0	69	0	90	0	0	0
	Through	2,518	372	0	851	0	1190	0	14	0
	Right Turn	355	171	0	**421**	0	**457**	0	0	0
WB	Left Turn	920	208	0	316	0	346	0	0	0
	Through	2,590	166	0	287	0	350	0	0	0
	Right Turn	750	21	0	50	0	65	0	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	185	91	0	**193**	0	**244**	0	1	0
	Through	464	187	0	299	0	354	0	9	0
	Right Turn	464	174	0	275	0	324	0	0	0
SB	Left Turn	290	**349**	0	**351**	0	**350**	0	86	0
	Through	5,159	2681	0	4564	0	4459	0	3	0
	Right Turn	5,159	2356	0	4750	0	4405	0	0	0
EB	Left Turn	250	**308**	0	**319**	0	**310**	0	82	0
	Through	5,459	2092	0	3897	0	3495	0	4	0
	Right Turn	5,459	2092	0	3897	0	3495	0	4	0
WB	Left Turn	90	34	0	**103**	0	**149**	0	1	0
	Through	491	321	0	**509**	0	**499**	0	53	3
	Right Turn	160	115	0	**264**	0	**220**	0	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **PM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn									
	Through	586	103	0	182	0	215	0	0	0
	Right Turn									
SB	Left Turn									
	Through	464	104	0	225	0	276	0	0	0
	Right Turn									
EB	Left Turn									
	Through									
	Right Turn									
WB	Left Turn	672	70	0	124	0	142	0	0	0
	Through									
	Right Turn	672	70	0	124	0	142	0	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn									
	Through									
	Right Turn	672	77	0	144	0	178	0	0	0
SB	Left Turn									
	Through									
	Right Turn									
EB	Left Turn									
	Through	491	253	0	426	0	468	0	0	0
	Right Turn	491	253	0	426	0	468	0	0	0
WB	Left Turn	530	71	0	127	0	157	0	0	0
	Through	3,699	18	0	107	0	188	0	0	0
	Right Turn									

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	700	86	0	167	0	215	0	0	0
	Through	737	88	0	142	0	170	0	0	0
	Right Turn	737	117	0	192	0	229	0	0	0
SB	Left Turn	550	71	0	140	0	174	0	0	0
	Through	1,039	109	0	175	0	198	0	0	0
	Right Turn	650	68	0	125	0	155	0	0	0
EB	Left Turn	300	67	0	111	0	150	0	0	0
	Through									
	Right Turn	1,111	165	0	263	0	313	0	0	0
WB	Left Turn	300	0	0	0	0	0	0	0	0
	Through									
	Right Turn	1,079	0	0	0	0	0	0	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1A**
Queue Length | **PM Peak Hour**
Intersection 7 **McHenry Avenue/Claratina Avenue** | **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	225	**277**	0	**328**	0	**285**	0	36	0
	Through	3,853	2767	0	**4446**	0	**3903**	0	71	22
	Right Turn	200	**235**	0	**334**	0	**260**	0	6	0
SB	Left Turn	500	455	0	**662**	0	**610**	0	10	0
	Through	1,480	493	0	858	0	860	0	6	0
	Right Turn	1,480	480	0	733	0	738	0	0	0
EB	Left Turn	350	**379**	0	**529**	0	**410**	0	0	0
	Through	4,930	4598	0	**5827**	0	**4982**	0	71	72
	Right Turn	350	**391**	0	**508**	0	**410**	0	0	0
WB	Left Turn	300	**750**	0	**361**	0	**360**	0	91	0
	Through	6,010	2542	0	4118	0	3554	0	1	27
	Right Turn	350	94	0	239	0	283	0	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	220	209	95.0%	49.1	0.0	D
	Through	80	77	96.3%	29.3	0.0	C
	Right Turn	40	43	107.5%	14.9	0.0	B
	Subtotal	**340**	**329**	**96.8%**	**40.0**	**0.0**	**D**
SB	Left Turn	30	29	96.7%	48.2	0.0	D
	Through	140	144	102.9%	48.6	0.0	D
	Right Turn	60	62	103.3%	32.8	0.0	C
	Subtotal	**230**	**235**	**102.2%**	**44.4**	**0.0**	**D**
EB	Left Turn	70	73	104.3%	59.8	0.0	E
	Through	1,190	1,202	101.0%	40.9	0.0	D
	Right Turn	140	142	101.4%	13.8	0.0	B
	Subtotal	**1,400**	**1,417**	**101.2%**	**39.2**	**0.0**	**D**
WB	Left Turn	240	240	100.0%	70.0	0.0	E
	Through	1,700	1,702	100.1%	38.5	0.0	D
	Right Turn	70	71	101.4%	16.8	0.0	B
	Subtotal	**2,010**	**2,013**	**100.1%**	**41.5**	**0.0**	**D**
Total		**3,980**	**3,994**	**100.4%**	**40.7**	**0.0**	**D**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	170	172	101.2%	33.6	0.0	C
	Through	90	85	94.4%	27.1	0.0	C
	Right Turn	170	175	102.9%	2.5	0.0	A
	Subtotal	**430**	**432**	**100.5%**	**19.7**	**0.0**	**B**
SB	Left Turn	40	39	97.5%	39.3	0.0	D
	Through	110	103	93.6%	32.5	0.0	C
	Right Turn	60	65	108.3%	19.0	0.0	B
	Subtotal	**210**	**207**	**98.6%**	**29.5**	**0.0**	**C**
EB	Left Turn	50	54	108.0%	63.9	0.0	E
	Through	790	813	102.9%	34.1	0.0	C
	Right Turn	420	419	99.8%	28.9	0.0	C
	Subtotal	**1,260**	**1,286**	**102.1%**	**33.7**	**0.0**	**C**
WB	Left Turn	660	664	100.6%	37.8	0.0	D
	Through	1,780	1,786	100.3%	22.6	0.0	C
	Right Turn	50	47	94.0%	5.1	0.0	A
	Subtotal	**2,490**	**2,497**	**100.3%**	**26.3**	**0.0**	**C**
Total		**4,390**	**4,422**	**100.7%**	**28.0**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	40	37	92.5%	61.6	0.0	E
	Through	450	444	98.7%	38.1	0.0	D
	Right Turn	20	21	105.0%	29.8	0.0	C
	Subtotal	**510**	**502**	**98.4%**	**39.5**	**0.0**	**D**
SB	Left Turn	80	80	100.0%	63.5	0.0	E
	Through	540	542	100.4%	44.5	0.0	D
	Right Turn	220	224	101.8%	39.5	0.0	D
	Subtotal	**840**	**846**	**100.7%**	**45.0**	**0.0**	**D**
EB	Left Turn	200	199	99.5%	63.3	0.0	E
	Through	180	185	102.8%	27.3	0.0	C
	Right Turn	70	72	102.9%	15.9	0.0	B
	Subtotal	**450**	**456**	**101.3%**	**41.2**	**0.0**	**D**
WB	Left Turn	20	16	80.0%	111.3	0.0	F
	Through	550	502	91.3%	83.0	0.0	F
	Right Turn	150	139	92.7%	50.7	0.0	D
	Subtotal	**720**	**657**	**91.3%**	**76.9**	**0.0**	**E**
Total		**2,520**	**2,461**	**97.7%**	**51.7**	**0.0**	**D**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	490	482	98.4%	10.6	0.0	B
	Right Turn	80	80	100.0%	0.2	0.0	A
	Subtotal	**570**	**562**	**98.6%**	**9.1**	**0.0**	**A**
SB	Left Turn						
	Through	630	632	100.3%	14.2	0.0	B
	Right Turn						
	Subtotal	**630**	**632**	**100.3%**	**14.2**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	300	271	90.3%	19.3	0.0	B
	Through	20	19	95.0%	6.0	0.0	A
	Right Turn						
	Subtotal	**320**	**290**	**90.6%**	**18.4**	**0.0**	**B**
Total		**1,520**	**1,484**	**97.6%**	**13.1**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	80	79	98.8%	4.1	0.0	A
	Subtotal	**80**	**79**	**98.8%**	**4.1**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	260	268	103.1%	10.9	0.0	B
	Right Turn	20	21	105.0%	4.5	0.0	A
	Subtotal	**280**	**289**	**103.2%**	**10.4**	**0.0**	**B**
WB	Left Turn	300	269	89.7%	167.1	0.0	F
	Through	720	661	91.8%	226.8	0.0	F
	Right Turn						
	Subtotal	**1,020**	**930**	**91.2%**	**209.5**	**0.0**	**F**
Total		**1,380**	**1,298**	**94.1%**	**152.7**	**0.0**	**F**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	130	130	100.0%	23.4	0.0	C
	Through	410	416	101.5%	14.1	0.0	B
	Right Turn	140	143	102.1%	4.8	0.0	A
	Subtotal	**680**	**689**	**101.3%**	**13.9**	**0.0**	**B**
SB	Left Turn	50	50	100.0%	17.1	0.0	B
	Through	530	526	99.2%	15.4	0.0	B
	Right Turn	300	299	99.7%	10.0	0.0	A
	Subtotal	**880**	**875**	**99.4%**	**13.7**	**0.0**	**B**
EB	Left Turn	40	40	100.0%	16.9	0.0	B
	Through						
	Right Turn	140	143	102.1%	21.6	0.0	C
	Subtotal	**180**	**183**	**101.7%**	**20.6**	**0.0**	**C**
WB	Left Turn	330	336	101.8%	21.5	0.0	C
	Through						
	Right Turn	250	256	102.4%	20.8	0.0	C
	Subtotal	**580**	**592**	**102.1%**	**21.2**	**0.0**	**C**
Total		**2,320**	**2,339**	**100.8%**	**16.2**	**0.0**	**B**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	310	309	99.7%	72.2	0.0	E
	Through	920	918	99.8%	35.2	0.0	D
	Right Turn	290	283	97.6%	16.6	0.0	B
	Subtotal	**1,520**	**1,510**	**99.3%**	**39.3**	**0.0**	**D**
SB	Left Turn	160	166	103.8%	57.4	0.0	E
	Through	670	674	100.6%	33.9	0.0	C
	Right Turn	180	184	102.2%	22.6	0.0	C
	Subtotal	**1,010**	**1,024**	**101.4%**	**35.7**	**0.0**	**D**
EB	Left Turn	320	313	97.8%	183.3	0.0	F
	Through	910	904	99.3%	42.1	0.0	D
	Right Turn	240	242	100.8%	11.6	0.0	B
	Subtotal	**1,470**	**1,459**	**99.3%**	**67.3**	**0.0**	**E**
WB	Left Turn	410	389	94.9%	189.4	0.0	F
	Through	1,590	1,522	95.7%	197.9	0.0	F
	Right Turn	440	413	93.9%	151.6	0.0	F
	Subtotal	**2,440**	**2,324**	**95.2%**	**188.2**	**0.0**	**F**
Total		**6,440**	**6,317**	**98.1%**	**100.0**	**0.0**	**F**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	440	449	102.0%	31.8	0.0	C
	Through	190	197	103.7%	8.4	0.0	A
	Right Turn	350	360	102.9%	7.3	0.0	A
	Subtotal	**980**	**1,006**	**102.7%**	**18.5**	**0.0**	**B**
SB	Left Turn	30	28	93.3%	33.2	0.0	C
	Through	290	295	101.7%	20.3	0.0	C
	Right Turn	430	441	102.6%	45.4	0.0	D
	Subtotal	**750**	**764**	**101.9%**	**35.3**	**0.0**	**D**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,730**	**1,770**	**102.3%**	**25.7**	**0.0**	**C**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	440	441	100.2%	51.3	0.0	D
	Through	450	452	100.4%	26.7	0.0	C
	Right Turn	150	143	95.3%	16.8	0.0	B
	Subtotal	**1,040**	**1,036**	**99.6%**	**35.8**	**0.0**	**D**
SB	Left Turn	60	61	101.7%	47.4	0.0	D
	Through	430	426	99.1%	41.4	0.0	D
	Right Turn	430	435	101.2%	38.3	0.0	D
	Subtotal	**920**	**922**	**100.2%**	**40.3**	**0.0**	**D**
EB	Left Turn	230	226	98.3%	70.9	0.0	E
	Through	780	777	99.6%	29.3	0.0	C
	Right Turn	250	263	105.2%	9.7	0.0	A
	Subtotal	**1,260**	**1,266**	**100.5%**	**32.7**	**0.0**	**C**
WB	Left Turn	160	159	99.4%	52.1	0.0	D
	Through	1,530	1,532	100.1%	47.0	0.0	D
	Right Turn	110	112	101.8%	28.6	0.0	C
	Subtotal	**1,800**	**1,803**	**100.2%**	**46.3**	**0.0**	**D**
Total		**5,020**	**5,027**	**100.1%**	**39.6**	**0.0**	**D**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	140	149	106.4%	41.9	0.0	D
	Through	60	64	106.7%	28.5	0.0	C
	Right Turn	100	104	104.0%	30.4	0.0	C
	Subtotal	**300**	**317**	**105.7%**	**35.4**	**0.0**	**D**
SB	Left Turn	70	69	98.6%	42.6	0.0	D
	Through	70	72	102.9%	34.1	0.0	C
	Right Turn	120	119	99.2%	8.7	0.0	A
	Subtotal	**260**	**260**	**100.0%**	**24.7**	**0.0**	**C**
EB	Left Turn	50	47	94.0%	46.4	0.0	D
	Through	240	241	100.4%	14.4	0.0	B
	Right Turn	40	42	105.0%	4.9	0.0	A
	Subtotal	**330**	**330**	**100.0%**	**17.7**	**0.0**	**B**
WB	Left Turn	170	172	101.2%	47.2	0.0	D
	Through	590	593	100.5%	16.2	0.0	B
	Right Turn	50	56	112.0%	12.8	0.0	B
	Subtotal	**810**	**821**	**101.4%**	**22.5**	**0.0**	**C**
Total		**1,700**	**1,728**	**101.6%**	**24.3**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	52	104.0%	42.9	0.0	D
	Through	280	281	100.4%	23.1	0.0	C
	Right Turn	240	237	98.8%	6.8	0.0	A
	Subtotal	**570**	**570**	**100.0%**	**18.1**	**0.0**	**B**
SB	Left Turn	70	72	102.9%	41.5	0.0	D
	Through	530	516	97.4%	26.2	0.0	C
	Right Turn	50	50	100.0%	21.6	0.0	C
	Subtotal	**650**	**638**	**98.2%**	**27.6**	**0.0**	**C**
EB	Left Turn	90	85	94.4%	29.5	0.0	C
	Through	40	39	97.5%	40.8	0.0	D
	Right Turn	90	91	101.1%	10.4	0.0	B
	Subtotal	**220**	**215**	**97.7%**	**23.5**	**0.0**	**C**
WB	Left Turn	450	445	98.9%	32.1	0.0	C
	Through	20	20	100.0%	42.4	0.0	D
	Right Turn	70	68	97.1%	3.8	0.0	A
	Subtotal	**540**	**533**	**98.7%**	**28.9**	**0.0**	**C**
Total		**1,980**	**1,956**	**98.8%**	**24.7**	**0.0**	**C**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	850	853	100.4%	49.1	0.0	D
	Through	360	350	97.2%	15.8	0.0	B
	Right Turn	40	38	95.0%	6.3	0.0	A
	Subtotal	**1,250**	**1,241**	**99.3%**	**38.4**	**0.0**	**D**
SB	Left Turn	30	29	96.7%	54.9	0.0	D
	Through	580	581	100.2%	57.0	0.0	E
	Right Turn	490	484	98.8%	23.5	0.0	C
	Subtotal	**1,100**	**1,094**	**99.5%**	**42.1**	**0.0**	**D**
EB	Left Turn	390	391	100.3%	54.4	0.0	D
	Through	270	269	99.6%	31.3	0.0	C
	Right Turn	300	306	102.0%	3.2	0.0	A
	Subtotal	**960**	**966**	**100.6%**	**31.7**	**0.0**	**C**
WB	Left Turn	30	28	93.3%	57.6	0.0	E
	Through	470	467	99.4%	58.1	0.0	E
	Right Turn	30	34	113.3%	6.3	0.0	A
	Subtotal	**530**	**529**	**99.8%**	**54.7**	**0.0**	**D**
Total		**3,840**	**3,830**	**99.7%**	**40.0**	**0.0**	**D**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	70	100.0%	30.9	0.0	C
	Through	250	257	102.8%	42.7	0.0	D
	Right Turn	50	49	98.0%	31.0	0.0	C
	Subtotal	**370**	**376**	**101.6%**	**39.0**	**0.0**	**D**
SB	Left Turn	160	160	100.0%	39.4	0.0	D
	Through	200	200	100.0%	40.9	0.0	D
	Right Turn	190	198	104.2%	13.6	0.0	B
	Subtotal	**550**	**558**	**101.5%**	**30.8**	**0.0**	**C**
EB	Left Turn	130	132	101.5%	42.9	0.0	D
	Through	160	164	102.5%	26.6	0.0	C
	Right Turn	40	42	105.0%	16.0	0.0	B
	Subtotal	**330**	**338**	**102.4%**	**31.6**	**0.0**	**C**
WB	Left Turn	40	40	100.0%	61.3	0.0	E
	Through	240	244	101.7%	40.5	0.0	D
	Right Turn	220	223	101.4%	17.6	0.0	B
	Subtotal	**500**	**507**	**101.4%**	**32.1**	**0.0**	**C**
Total		**1,750**	**1,779**	**101.7%**	**33.0**	**0.0**	**C**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	140	144	102.9%	28.1	0.0	C
	Through	360	352	97.8%	15.4	0.0	B
	Right Turn	20	20	100.0%	3.8	0.0	A
	Subtotal	**520**	**516**	**99.2%**	**18.5**	**0.0**	**B**
SB	Left Turn	20	19	95.0%	28.1	0.0	C
	Through	420	414	98.6%	15.7	0.0	B
	Right Turn	20	19	95.0%	8.5	0.0	A
	Subtotal	**460**	**452**	**98.3%**	**15.9**	**0.0**	**B**
EB	Left Turn	40	37	92.5%	26.9	0.0	C
	Through	50	48	96.0%	17.4	0.0	B
	Right Turn	210	219	104.3%	6.4	0.0	A
	Subtotal	**300**	**304**	**101.3%**	**10.6**	**0.0**	**B**
WB	Left Turn	30	26	86.7%	27.7	0.0	C
	Through	80	79	98.8%	18.7	0.0	B
	Right Turn	50	52	104.0%	3.1	0.0	A
	Subtotal	**160**	**157**	**98.1%**	**15.0**	**0.0**	**B**
Total		**1,440**	**1,429**	**99.2%**	**15.6**	**0.0**	**B**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	113	102.7%	11.4	0.0	B
	Through						
	Right Turn	40	41	102.5%	3.4	0.0	A
	Subtotal	**150**	**154**	**102.7%**	**9.3**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	180	181	100.6%	7.3	0.0	A
	Right Turn	140	141	100.7%	3.5	0.0	A
	Subtotal	**320**	**322**	**100.6%**	**5.6**	**0.0**	**A**
WB	Left Turn	110	106	96.4%	12.0	0.0	B
	Through	400	405	101.3%	3.5	0.0	A
	Right Turn						
	Subtotal	**510**	**511**	**100.2%**	**5.3**	**0.0**	**A**
Total		**980**	**987**	**100.7%**	**6.0**	**0.0**	**A**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	350	352	100.6%	60.7	0.0	E
	Through	200	203	101.5%	38.5	0.0	D
	Right Turn	420	410	97.6%	15.2	0.0	B
	Subtotal	**970**	**965**	**99.5%**	**36.7**	**0.0**	**D**
SB	Left Turn	60	59	98.3%	56.3	0.0	E
	Through	230	230	100.0%	68.4	0.0	E
	Right Turn	390	391	100.3%	25.2	0.0	C
	Subtotal	**680**	**680**	**100.0%**	**42.5**	**0.0**	**D**
EB	Left Turn	310	313	101.0%	40.0	0.0	D
	Through	1,340	1,342	100.1%	42.8	0.0	D
	Right Turn	330	328	99.4%	8.5	0.0	A
	Subtotal	**1,980**	**1,983**	**100.2%**	**36.7**	**0.0**	**D**
WB	Left Turn	430	420	97.7%	38.5	0.0	D
	Through	1,170	1,158	99.0%	27.1	0.0	C
	Right Turn	60	59	98.3%	6.5	0.0	A
	Subtotal	**1,660**	**1,637**	**98.6%**	**29.3**	**0.0**	**C**
Total		**5,290**	**5,265**	**99.5%**	**35.1**	**0.0**	**D**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	47	94.0%	15.4	0.0	B
	Through	10	9	90.0%	12.3	0.0	B
	Right Turn	50	52	104.0%	3.8	0.0	A
	Subtotal	**110**	**108**	**98.2%**	**9.6**	**0.0**	**A**
SB	Left Turn	60	56	93.3%	13.6	0.0	B
	Through	10	11	110.0%	13.5	0.0	B
	Right Turn	20	21	105.0%	3.2	0.0	A
	Subtotal	**90**	**88**	**97.8%**	**11.1**	**0.0**	**B**
EB	Left Turn	220	220	100.0%	15.5	0.0	B
	Through	80	76	95.0%	8.2	0.0	A
	Right Turn	50	52	104.0%	3.2	0.0	A
	Subtotal	**350**	**348**	**99.4%**	**12.1**	**0.0**	**B**
WB	Left Turn	50	57	114.0%	21.7	0.0	C
	Through	170	175	102.9%	16.8	0.0	B
	Right Turn	80	76	95.0%	8.2	0.0	A
	Subtotal	**300**	**308**	**102.7%**	**15.6**	**0.0**	**B**
Total		**850**	**852**	**100.2%**	**12.9**	**0.0**	**B**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	30	100.0%	7.4	0.0	A
	Through	20	18	90.0%	10.8	0.0	B
	Right Turn	30	32	106.7%	3.4	0.0	A
	Subtotal	**80**	**80**	**100.0%**	**6.6**	**0.0**	**A**
SB	Left Turn	20	19	95.0%	7.6	0.0	A
	Through	40	42	105.0%	11.0	0.0	B
	Right Turn	30	28	93.3%	4.0	0.0	A
	Subtotal	**90**	**89**	**98.9%**	**8.1**	**0.0**	**A**
EB	Left Turn	20	17	85.0%	4.1	0.0	A
	Through	130	132	101.5%	1.8	0.0	A
	Right Turn	30	31	103.3%	1.2	0.0	A
	Subtotal	**180**	**180**	**100.0%**	**1.9**	**0.0**	**A**
WB	Left Turn	30	28	93.3%	2.3	0.0	A
	Through	300	293	97.7%	2.6	0.0	A
	Right Turn	50	52	104.0%	1.0	0.0	A
	Subtotal	**380**	**373**	**98.2%**	**2.4**	**0.0**	**A**
Total		**730**	**722**	**98.9%**	**3.4**	**0.0**	**A**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	109	99.1%	18.6	0.0	B
	Through	70	69	98.6%	14.5	0.0	B
	Right Turn	40	42	105.0%	7.6	0.0	A
	Subtotal	**220**	**220**	**100.0%**	**15.2**	**0.0**	**B**
SB	Left Turn	130	137	105.4%	20.0	0.0	B
	Through	80	80	100.0%	14.5	0.0	B
	Right Turn	150	153	102.0%	5.4	0.0	A
	Subtotal	**360**	**370**	**102.8%**	**12.8**	**0.0**	**B**
EB	Left Turn	80	81	101.3%	26.4	0.0	C
	Through	470	469	99.8%	13.1	0.0	B
	Right Turn	60	62	103.3%	8.4	0.0	A
	Subtotal	**610**	**612**	**100.3%**	**14.4**	**0.0**	**B**
WB	Left Turn	60	58	96.7%	28.9	0.0	C
	Through	390	399	102.3%	15.9	0.0	B
	Right Turn	80	83	103.8%	8.2	0.0	A
	Subtotal	**530**	**540**	**101.9%**	**16.1**	**0.0**	**B**
Total		**1,720**	**1,742**	**101.3%**	**14.7**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	108	98.2%	42.7	0.0	D
	Through	330	338	102.4%	43.2	0.0	D
	Right Turn	80	81	101.3%	9.0	0.0	A
	Subtotal	**520**	**527**	**101.3%**	**37.8**	**0.0**	**D**
SB	Left Turn	320	322	100.6%	51.7	0.0	D
	Through	460	456	99.1%	46.3	0.0	D
	Right Turn	90	89	98.9%	40.9	0.0	D
	Subtotal	**870**	**867**	**99.7%**	**47.8**	**0.0**	**D**
EB	Left Turn	120	113	94.2%	83.7	0.0	F
	Through	400	402	100.5%	43.2	0.0	D
	Right Turn	90	93	103.3%	36.2	0.0	D
	Subtotal	**610**	**608**	**99.7%**	**49.7**	**0.0**	**D**
WB	Left Turn	130	103	79.2%	636.4	0.0	F
	Through	310	262	84.5%	335.7	0.0	F
	Right Turn	320	290	90.6%	70.3	0.0	E
	Subtotal	**760**	**655**	**86.2%**	**265.5**	**0.0**	**F**
Total		**2,760**	**2,657**	**96.3%**	**99.9**	**0.0**	**F**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	280	278	99.3%	40.3	0.0	D
	Through	120	115	95.8%	23.2	0.0	C
	Right Turn	100	101	101.0%	6.9	0.0	A
	Subtotal	**500**	**494**	**98.8%**	**29.5**	**0.0**	**C**
SB	Left Turn	50	49	98.0%	37.8	0.0	D
	Through	160	161	100.6%	29.9	0.0	C
	Right Turn	140	140	100.0%	10.9	0.0	B
	Subtotal	**350**	**350**	**100.0%**	**23.4**	**0.0**	**C**
EB	Left Turn	70	70	100.0%	36.0	0.0	D
	Through	370	365	98.6%	23.2	0.0	C
	Right Turn	160	165	103.1%	15.0	0.0	B
	Subtotal	**600**	**600**	**100.0%**	**22.4**	**0.0**	**C**
WB	Left Turn	170	165	97.1%	37.1	0.0	D
	Through	410	406	99.0%	18.1	0.0	B
	Right Turn	50	52	104.0%	11.0	0.0	B
	Subtotal	**630**	**623**	**98.9%**	**22.5**	**0.0**	**C**
Total		**2,080**	**2,067**	**99.4%**	**24.3**	**0.0**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	50	100.0%	40.3	0.0	D
	Through	700	696	99.4%	26.1	0.0	C
	Right Turn	20	22	110.0%	14.4	0.0	B
	Subtotal	**770**	**768**	**99.7%**	**26.7**	**0.0**	**C**
SB	Left Turn	110	109	99.1%	44.2	0.0	D
	Through	650	660	101.5%	23.9	0.0	C
	Right Turn	80	84	105.0%	19.5	0.0	B
	Subtotal	**840**	**853**	**101.5%**	**26.1**	**0.0**	**C**
EB	Left Turn	50	49	98.0%	36.5	0.0	D
	Through	50	51	102.0%	31.4	0.0	C
	Right Turn	40	37	92.5%	6.4	0.0	A
	Subtotal	**140**	**137**	**97.9%**	**26.5**	**0.0**	**C**
WB	Left Turn	30	32	106.7%	37.8	0.0	D
	Through	120	118	98.3%	31.1	0.0	C
	Right Turn	270	264	97.8%	11.2	0.0	B
	Subtotal	**420**	**414**	**98.6%**	**18.9**	**0.0**	**B**
Total		**2,170**	**2,172**	**100.1%**	**24.9**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	108	98.2%	36.2	0.0	D
	Through	680	694	102.1%	15.0	0.0	B
	Right Turn	40	39	97.5%	8.5	0.0	A
	Subtotal	**830**	**841**	**101.3%**	**17.4**	**0.0**	**B**
SB	Left Turn	30	28	93.3%	36.2	0.0	D
	Through	650	630	96.9%	20.0	0.0	B
	Right Turn	40	44	110.0%	7.9	0.0	A
	Subtotal	**720**	**702**	**97.5%**	**19.9**	**0.0**	**B**
EB	Left Turn	20	20	100.0%	36.4	0.0	D
	Through	80	77	96.3%	26.2	0.0	C
	Right Turn	80	81	101.3%	6.4	0.0	A
	Subtotal	**180**	**178**	**98.9%**	**18.3**	**0.0**	**B**
WB	Left Turn	40	40	100.0%	37.5	0.0	D
	Through	230	226	98.3%	29.0	0.0	C
	Right Turn	30	31	103.3%	17.5	0.0	B
	Subtotal	**300**	**297**	**99.0%**	**28.9**	**0.0**	**C**
Total		**2,030**	**2,018**	**99.4%**	**20.1**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	80	100.0%	27.1	0.0	C
	Through	410	409	99.8%	10.9	0.0	B
	Right Turn	460	462	100.4%	10.6	0.0	B
	Subtotal	**950**	**951**	**100.1%**	**12.1**	**0.0**	**B**
SB	Left Turn	100	90	90.0%	26.1	0.0	C
	Through	440	433	98.4%	10.0	0.0	A
	Right Turn	530	532	100.4%	10.5	0.0	B
	Subtotal	**1,070**	**1,055**	**98.6%**	**11.6**	**0.0**	**B**
EB	Left Turn	90	93	103.3%	19.7	0.0	B
	Through						
	Right Turn	40	40	100.0%	23.7	0.0	C
	Subtotal	**130**	**133**	**102.3%**	**20.9**	**0.0**	**C**
WB	Left Turn	250	245	98.0%	21.2	0.0	C
	Through						
	Right Turn	70	70	100.0%	23.2	0.0	C
	Subtotal	**320**	**315**	**98.4%**	**21.6**	**0.0**	**C**
Total		**2,470**	**2,454**	**99.4%**	**13.6**	**0.0**	**B**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	260	254	97.7%	22.6	0.0	C
	Through	430	423	98.4%	13.5	0.0	B
	Right Turn	360	361	100.3%	8.6	0.0	A
	Subtotal	**1,050**	**1,038**	**98.9%**	**14.0**	**0.0**	**B**
SB	Left Turn	120	118	98.3%	27.1	0.0	C
	Through	480	485	101.0%	17.9	0.0	B
	Right Turn	60	58	96.7%	9.3	0.0	A
	Subtotal	**660**	**661**	**100.2%**	**18.8**	**0.0**	**B**
EB	Left Turn	20	0	0.0%	0.0	0.0	A
	Through						
	Right Turn	140	0	0.0%	0.0	0.0	A
	Subtotal	**160**	**0**	**0.0%**	**0.0**	**0.0**	**A**
WB	Left Turn	260	0	0.0%	0.0	0.0	A
	Through						
	Right Turn	70	0	0.0%	0.0	0.0	A
	Subtotal	**330**	**0**	**0.0%**	**0.0**	**0.0**	**A**
Total		**2,200**	**1,699**	**77.2%**	**15.9**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	40	37	92.5%	33.5	0.0	C
	Through	60	60	100.0%	29.7	0.0	C
	Right Turn	150	150	100.0%	10.3	0.0	B
	Subtotal	**250**	**247**	**98.8%**	**18.5**	**0.0**	**B**
SB	Left Turn	60	59	98.3%	36.2	0.0	D
	Through	50	48	96.0%	31.2	0.0	C
	Right Turn	900	910	101.1%	12.7	0.0	B
	Subtotal	**1,010**	**1,017**	**100.7%**	**14.9**	**0.0**	**B**
EB	Left Turn	570	577	101.2%	28.8	0.0	C
	Through	1,230	1,236	100.5%	11.0	0.0	B
	Right Turn	20	19	95.0%	2.3	0.0	A
	Subtotal	**1,820**	**1,832**	**100.7%**	**16.5**	**0.0**	**B**
WB	Left Turn	50	50	100.0%	39.6	0.0	D
	Through	720	711	98.8%	21.9	0.0	C
	Right Turn	30	30	100.0%	5.5	0.0	A
	Subtotal	**800**	**791**	**98.9%**	**22.4**	**0.0**	**C**
Total		**3,880**	**3,887**	**100.2%**	**17.4**	**0.0**	**B**

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	18	90.0%	64.7	0.0	E
	Through	760	748	98.4%	56.3	0.0	E
	Right Turn	240	244	101.7%	16.5	0.0	B
	Subtotal	**1,020**	**1,010**	**99.0%**	**46.8**	**0.0**	**D**
SB	Left Turn	20	20	100.0%	51.9	0.0	D
	Through	440	444	100.9%	31.5	0.0	C
	Right Turn	470	468	99.6%	5.9	0.0	A
	Subtotal	**930**	**932**	**100.2%**	**19.1**	**0.0**	**B**
EB	Left Turn	980	988	100.8%	41.6	0.0	D
	Through	300	301	100.3%	20.0	0.0	B
	Right Turn	160	162	101.3%	6.0	0.0	A
	Subtotal	**1,440**	**1,451**	**100.8%**	**33.1**	**0.0**	**C**
WB	Left Turn	240	245	102.1%	43.4	0.0	D
	Through	350	346	98.9%	43.6	0.0	D
	Right Turn						
	Subtotal	**590**	**591**	**100.2%**	**43.5**	**0.0**	**D**
Total		**3,980**	**3,984**	**100.1%**	**34.9**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	159	264	303	0	0
	Through	2,428	60	134	180	0	0
	Right Turn	2,428	60	134	180	0	0
SB	Left Turn	300	30	82	121	0	0
	Through	2,373	143	261	319	0	0
	Right Turn	2,373	143	261	319	0	0
EB	Left Turn	530	74	150	177	0	0
	Through	3,295	270	399	438	1	0
	Right Turn	410	61	155	232	0	0
WB	Left Turn	580	220	391	430	0	0
	Through	2,518	275	452	510	0	0
	Right Turn	530	25	62	76	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	46	90	107	0	0
	Through	923	31	66	80	0	0
	Right Turn						
SB	Left Turn	550	32	76	97	0	0
	Through	3,946	35	67	90	0	0
	Right Turn	3,946	35	83	114	0	0
EB	Left Turn	715	53	113	146	0	0
	Through	2,518	168	591	958	0	0
	Right Turn	355	145	270	296	0	0
WB	Left Turn	920	174	247	269	0	0
	Through	2,590	207	362	429	0	0
	Right Turn	750	15	43	59	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	45	114	183	0	0
	Through	464	156	256	301	5	0
	Right Turn	464	149	246	292	0	0
SB	Left Turn	290	91	213	266	0	0
	Through	5,159	230	363	393	3	0
	Right Turn	5,159	275	405	450	0	0
EB	Left Turn	250	177	**281**	**297**	4	0
	Through	5,459	126	253	315	0	0
	Right Turn	5,459	126	253	315	0	0
WB	Left Turn	90	30	**100**	**149**	1	0
	Through	491	**496**	**519**	**507**	64	45
	Right Turn	160	146	**289**	**220**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	106	187	225	0	0
	Right Turn						
SB	Left Turn						
	Through	464	120	245	305	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	115	190	214	0	0
	Through						
	Right Turn	672	115	190	214	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	19	48	63	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	87	171	221	0	0
	Right Turn	491	87	171	221	0	0
WB	Left Turn	530	493	**816**	**590**	0	0
	Through	3,699	2057	**3873**	3320	49	10
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	67	136	175	0	0
	Through	737	60	113	138	0	0
	Right Turn	737	25	60	87	0	0
SB	Left Turn	550	26	67	95	0	0
	Through	1,038	75	135	166	0	0
	Right Turn	650	77	146	196	0	0
EB	Left Turn	300	19	52	66	0	0
	Through						
	Right Turn	1,111	86	154	174	0	0
WB	Left Turn	300	75	124	153	0	0
	Through						
	Right Turn	1,079	121	199	231	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	170	**269**	**279**	3	0
	Through	3,853	207	298	356	5	0
	Right Turn	200	119	**238**	**260**	1	0
SB	Left Turn	500	117	192	226	0	0
	Through	1,480	206	298	339	0	0
	Right Turn	1,480	157	251	280	0	0
EB	Left Turn	350	267	**437**	**383**	20	0
	Through	4,930	291	651	548	0	0
	Right Turn	350	70	130	170	0	0
WB	Left Turn	300	**601**	**446**	**360**	1	0
	Through	5,895	1368	2582	2130	54	1
	Right Turn	350	**381**	**511**	**410**	3	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	218	361	390	0	0
	Through	902	18	53	78	0	0
	Right Turn	600	49	114	150	0	0
SB	Left Turn	650	22	60	92	0	0
	Through	952	71	205	269	0	0
	Right Turn	650	265	508	569	1	0
EB	Left Turn	500	28	66	82	0	0
	Through						
	Right Turn	860	35	85	110	0	0
WB	Left Turn	500	105	170	186	0	0
	Through						
	Right Turn	901	37	81	101	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	204	285	**309**	0	0
	Through	1,262	134	227	268	0	0
	Right Turn	1,262	137	225	257	0	0
SB	Left Turn	300	55	105	115	0	0
	Through	1,262	178	396	453	0	0
	Right Turn	300	213	**357**	**352**	8	0
EB	Left Turn	300	138	214	228	0	0
	Through	1,409	203	284	308	0	0
	Right Turn	300	56	113	152	0	0
WB	Left Turn	300	155	**317**	**359**	0	0
	Through	3,308	338	536	556	12	0
	Right Turn	3,308	288	476	508	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	109	190	**223**	1	0
	Through	2,570	48	114	164	0	0
	Right Turn	2,570	76	146	176	0	0
SB	Left Turn	150	61	117	**151**	1	0
	Through	2,170	58	123	184	7	0
	Right Turn	75	54	**105**	**133**	2	0
EB	Left Turn	525	42	92	109	0	0
	Through	2,722	55	102	124	0	0
	Right Turn	2,722	54	109	135	0	0
WB	Left Turn	625	76	122	137	0	0
	Through	3,227	98	175	214	0	0
	Right Turn	3,227	118	202	242	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	48	102	123	0	0
	Through	1,181	84	143	168	0	0
	Right Turn	1,181	61	107	142	0	0
SB	Left Turn	315	57	118	140	0	0
	Through	3,988	111	232	309	0	0
	Right Turn	3,988	183	298	341	0	0
EB	Left Turn	410	60	127	172	0	0
	Through	1,731	36	86	109	0	0
	Right Turn	1,731	44	87	106	0	0
WB	Left Turn	1,878	185	289	332	0	0
	Through	1,878	13	42	66	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	319	447	484	0	0
	Through	2,052	85	142	163	0	0
	Right Turn	2,052	70	133	147	0	0
SB	Left Turn	300	34	117	198	0	0
	Through	501	278	406	446	6	2
	Right Turn	300	177	**326**	**342**	5	0
EB	Left Turn	1,375	186	271	284	0	0
	Through	1,375	96	163	198	0	0
	Right Turn						
WB	Left Turn	300	29	69	93	0	0
	Through	1,274	191	264	288	0	0
	Right Turn	300	17	43	56	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	70	189	**256**	0	0
	Through	1,227	235	416	489	9	0
	Right Turn	1,227	235	416	489	9	0
SB	Left Turn	175	136	**251**	**235**	4	0
	Through	1,669	226	483	596	25	0
	Right Turn	100	**109**	**194**	**160**	2	0
EB	Left Turn	3,220	94	173	208	0	0
	Through	3,220	95	181	228	0	0
	Right Turn	3,220	95	181	228	0	0
WB	Left Turn	75	53	**125**	**130**	5	0
	Through	3,356	185	356	452	38	0
	Right Turn	150	115	**228**	**210**	1	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	78	148	183	0	0
	Through	1,058	98	192	235	0	0
	Right Turn	1,058	8	44	81	0	0
SB	Left Turn	300	17	49	69	0	0
	Through	414	88	147	163	0	0
	Right Turn	414	71	130	150	0	0
EB	Left Turn	300	30	67	84	0	0
	Through	1,163	30	76	101	0	0
	Right Turn	300	65	112	143	0	0
WB	Left Turn	300	22	57	78	0	0
	Through	1,019	38	84	106	0	0
	Right Turn	300	21	48	56	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	44	76	85	0	0
	Through						
	Right Turn	150	20	46	51	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	44	79	89	0	0
	Right Turn	300	44	80	104	0	0
WB	Left Turn	400	51	95	118	0	0
	Through	873	29	68	86	0	0
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	726	127	197	224	0	0
	Through	726	76	141	171	0	0
	Right Turn	840	145	270	317	0	0
SB	Left Turn	520	36	76	94	0	0
	Through	1,217	112	193	213	0	0
	Right Turn	720	167	288	337	0	0
EB	Left Turn	800	128	195	211	0	0
	Through	1,066	331	499	558	0	0
	Right Turn	1,000	84	167	215	0	0
WB	Left Turn	1,589	116	185	206	0	0
	Through	1,589	192	286	319	0	0
	Right Turn	850	13	42	66	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	32	71	92	0	0
	Through	1,593	33	71	84	0	0
	Right Turn	1,593	33	71	84	0	0
SB	Left Turn	799	39	86	105	0	0
	Through	799	39	86	105	0	0
	Right Turn	300	14	45	67	0	0
EB	Left Turn	300	83	142	161	0	0
	Through	2,870	21	57	83	0	0
	Right Turn	2,870	21	57	83	0	0
WB	Left Turn	300	39	82	95	0	0
	Through	5,347	84	156	188	0	0
	Right Turn	5,347	84	156	188	0	0

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,498	30	63	82	6	0
	Through	1,498	30	63	82	6	0
	Right Turn	20	**24**	**54**	**58**	3	0
SB	Left Turn	1,216	34	63	73	8	0
	Through	1,216	34	63	73	8	0
	Right Turn	20	**21**	**50**	**60**	3	0
EB	Left Turn	2,720	6	29	58	0	0
	Through	2,720	6	29	58	0	0
	Right Turn	2,720	6	29	58	0	0
WB	Left Turn	2,487	4	23	45	0	0
	Through	2,487	4	23	45	0	0
	Right Turn	2,487	4	23	45	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	55	102	122	0	0
	Through	1,264	48	94	114	0	0
	Right Turn	1,264	48	94	114	0	0
SB	Left Turn	100	60	**109**	**126**	2	0
	Through	1,626	35	81	110	1	0
	Right Turn	75	46	**82**	**105**	1	0
EB	Left Turn	250	46	90	103	0	0
	Through	1,565	77	150	181	0	0
	Right Turn	1,565	93	168	206	0	0
WB	Left Turn	250	41	80	101	0	0
	Through	2,560	106	175	212	0	0
	Right Turn	300	75	142	163	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	179	280	312	0	0
	Through	1,934	180	280	313	0	0
	Right Turn	300	46	108	156	0	0
SB	Left Turn	5,862	340	537	600	0	0
	Through	5,862	340	537	600	0	0
	Right Turn	5,862	306	502	570	0	0
EB	Left Turn	50	**94**	**130**	**110**	56	0
	Through	2,671	300	616	836	42	0
	Right Turn	200	**206**	**296**	**260**	9	0
WB	Left Turn	300	**346**	**410**	**360**	84	0
	Through	2,545	1582	**2962**	2534	12	19
	Right Turn	2,545	1242	**2978**	2519	0	10

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	104	161	176	0	0
	Through	1,873	60	117	146	16	0
	Right Turn	50	43	**90**	**106**	1	0
SB	Left Turn	100	41	94	**133**	1	0
	Through	2,914	90	169	250	9	0
	Right Turn	100	59	**117**	**146**	0	0
EB	Left Turn	250	46	105	150	0	0
	Through	1,994	111	194	246	0	0
	Right Turn	1,994	120	210	252	0	0
WB	Left Turn	200	98	175	**208**	1	0
	Through	2,690	87	164	198	0	0
	Right Turn	2,690	100	175	207	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	39	83	100	0	0
	Through	1,498	170	267	290	0	0
	Right Turn	300	142	249	294	0	0
SB	Left Turn	400	82	154	190	0	0
	Through	2,125	126	239	282	0	0
	Right Turn	2,125	151	262	299	0	0
EB	Left Turn	225	43	93	115	0	0
	Through	5,602	37	85	116	0	0
	Right Turn	225	23	57	72	0	0
WB	Left Turn	225	30	72	99	0	0
	Through	2,237	72	141	169	0	0
	Right Turn	225	81	143	181	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	81	161	193	0	0
	Through	1,326	133	221	259	0	0
	Right Turn	1,326	111	208	243	0	0
SB	Left Turn	350	28	70	92	0	0
	Through	1,404	162	248	277	0	0
	Right Turn	350	22	57	77	0	0
EB	Left Turn	225	17	48	65	0	0
	Through	1,997	42	90	116	0	0
	Right Turn	225	25	53	72	0	0
WB	Left Turn	175	38	89	126	0	0
	Through	2,609	126	221	275	3	0
	Right Turn	2,609	126	221	275	3	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	50	102	124	0	0
	Through	1,357	53	109	126	0	0
	Right Turn	700	95	172	210	0	0
SB	Left Turn	600	49	102	126	0	0
	Through	1,181	56	109	136	0	0
	Right Turn	600	112	197	231	0	0
EB	Left Turn	500	43	84	104	0	0
	Through						
	Right Turn	500	30	72	95	0	0
WB	Left Turn	500	67	113	127	0	0
	Through						
	Right Turn	350	49	101	119	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **AM Peak Hour**

Intersection 25 **NCC SPUI & Roselle** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	112	205	248	0	0
	Through	671	89	166	208	0	0
	Right Turn	400	65	138	172	0	0
SB	Left Turn	550	61	121	145	0	0
	Through	1,058	73	141	166	0	0
	Right Turn	550	7	31	57	0	0
EB	Left Turn	500	8	29	43	0	0
	Through						
	Right Turn	1,221	74	131	155	0	0
WB	Left Turn	500	72	117	139	0	0
	Through						
	Right Turn	1,160	47	95	111	0	0

Intersection 26 **Crane Rd & NCC** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	150	28	64	81	0	0
	Through	914	35	82	110	0	0
	Right Turn	300	48	98	122	0	0
SB	Left Turn	275	47	96	114	0	0
	Through	2,750	32	76	94	0	0
	Right Turn	2,750	118	195	226	0	0
EB	Left Turn	1,599	156	240	276	0	0
	Through	1,599	101	172	191	0	0
	Right Turn	630	5	25	40	0	0
WB	Left Turn	930	36	87	118	0	0
	Through	1,340	110	190	221	0	0
	Right Turn	630	15	45	64	0	0

Intersection 27 **Albers Rd & NCC** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	29	123	**244**	0	0
	Through	2,125	271	476	555	23	0
	Right Turn	300	96	292	**418**	0	0
SB	Left Turn	200	23	63	86	0	0
	Through	2,166	129	198	218	1	0
	Right Turn	500	46	92	118	0	0
EB	Left Turn	750	282	417	442	0	0
	Through	1,588	53	113	145	0	0
	Right Turn	750	26	71	98	0	0
WB	Left Turn	720	97	159	185	0	0
	Through	4,614	115	196	227	0	0
	Right Turn	670	22	60	82	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	160	159	99.4%	61.6	0.0	E
	Through	110	104	94.5%	78.1	0.0	E
	Right Turn	190	186	97.9%	57.6	0.0	E
	Subtotal	**460**	**449**	**97.6%**	**63.8**	**0.0**	**E**
SB	Left Turn	150	152	101.3%	56.8	0.0	E
	Through	90	93	103.3%	44.4	0.0	D
	Right Turn	20	19	95.0%	26.5	0.0	C
	Subtotal	**260**	**264**	**101.5%**	**50.3**	**0.0**	**D**
EB	Left Turn	60	56	93.3%	59.8	0.0	E
	Through	1,670	1,668	99.9%	58.5	0.0	E
	Right Turn	270	271	100.4%	22.9	0.0	C
	Subtotal	**2,000**	**1,995**	**99.8%**	**53.7**	**0.0**	**D**
WB	Left Turn	200	193	96.5%	69.3	0.0	E
	Through	1,760	1,750	99.4%	31.9	0.0	C
	Right Turn	100	103	103.0%	14.5	0.0	B
	Subtotal	**2,060**	**2,046**	**99.3%**	**34.6**	**0.0**	**C**
Total		**4,780**	**4,754**	**99.5%**	**46.2**	**0.0**	**D**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	600	592	98.7%	84.9	0.0	F
	Through	220	218	99.1%	38.8	0.0	D
	Right Turn	820	815	99.4%	8.6	0.0	A
	Subtotal	**1,640**	**1,625**	**99.1%**	**40.4**	**0.0**	**D**
SB	Left Turn	130	131	100.8%	63.8	0.0	E
	Through	210	212	101.0%	120.3	0.0	F
	Right Turn	40	43	107.5%	65.6	0.0	E
	Subtotal	**380**	**386**	**101.6%**	**95.0**	**0.0**	**F**
EB	Left Turn	30	27	90.0%	56.4	0.0	E
	Through	1,620	1,629	100.6%	59.7	0.0	E
	Right Turn	360	356	98.9%	32.6	0.0	C
	Subtotal	**2,010**	**2,012**	**100.1%**	**54.9**	**0.0**	**D**
WB	Left Turn	600	591	98.5%	80.7	0.0	F
	Through	1,420	1,412	99.4%	16.6	0.0	B
	Right Turn	90	90	100.0%	4.3	0.0	A
	Subtotal	**2,110**	**2,093**	**99.2%**	**34.2**	**0.0**	**C**
Total		**6,140**	**6,116**	**99.6%**	**46.5**	**0.0**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	75	93.8%	59.5	0.0	E
	Through	520	525	101.0%	41.8	0.0	D
	Right Turn	20	18	90.0%	33.9	0.0	C
	Subtotal	**620**	**618**	**99.7%**	**43.7**	**0.0**	**D**
SB	Left Turn	410	287	70.0%	796.5	0.0	F
	Through	610	599	98.2%	71.0	0.0	E
	Right Turn	300	293	97.7%	63.5	0.0	E
	Subtotal	**1,320**	**1,179**	**89.3%**	**245.7**	**0.0**	**F**
EB	Left Turn	270	225	83.3%	563.6	0.0	F
	Through	240	204	85.0%	473.6	0.0	F
	Right Turn	40	34	85.0%	457.2	0.0	F
	Subtotal	**550**	**463**	**84.2%**	**516.1**	**0.0**	**F**
WB	Left Turn	20	20	100.0%	79.8	0.0	E
	Through	370	370	100.0%	54.2	0.0	D
	Right Turn	100	98	98.0%	19.9	0.0	B
	Subtotal	**490**	**488**	**99.6%**	**48.4**	**0.0**	**D**
Total		**2,980**	**2,748**	**92.2%**	**210.8**	**0.0**	**F**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	600	596	99.3%	8.9	0.0	A
	Right Turn	370	372	100.5%	1.1	0.0	A
	Subtotal	**970**	**968**	**99.8%**	**5.9**	**0.0**	**A**
SB	Left Turn						
	Through	670	656	97.9%	12.8	0.0	B
	Right Turn						
	Subtotal	**670**	**656**	**97.9%**	**12.8**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	160	157	98.1%	18.8	0.0	B
	Through	20	21	105.0%	5.2	0.0	A
	Right Turn						
	Subtotal	**180**	**178**	**98.9%**	**17.2**	**0.0**	**B**
Total		**1,820**	**1,802**	**99.0%**	**9.5**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	370	372	100.5%	8.1	0.0	A
	Subtotal	**370**	**372**	**100.5%**	**8.1**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	650	498	76.6%	31.8	0.0	C
	Right Turn	20	15	75.0%	15.2	0.0	B
	Subtotal	**670**	**513**	**76.6%**	**31.3**	**0.0**	**C**
WB	Left Turn	160	164	102.5%	23.7	0.0	C
	Through	490	488	99.6%	5.6	0.0	A
	Right Turn						
	Subtotal	**650**	**652**	**100.3%**	**10.2**	**0.0**	**B**
Total		**1,690**	**1,537**	**90.9%**	**16.7**	**0.0**	**B**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	200	202	101.0%	19.9	0.0	B
	Through	690	690	100.0%	16.8	0.0	B
	Right Turn	880	886	100.7%	10.9	0.0	B
	Subtotal	**1,770**	**1,778**	**100.5%**	**14.2**	**0.0**	**B**
SB	Left Turn	130	136	104.6%	22.8	0.0	C
	Through	560	567	101.3%	26.2	0.0	C
	Right Turn	250	256	102.4%	12.2	0.0	B
	Subtotal	**940**	**959**	**102.0%**	**22.0**	**0.0**	**C**
EB	Left Turn	220	217	98.6%	25.8	0.0	C
	Through						
	Right Turn	340	346	101.8%	25.1	0.0	C
	Subtotal	**560**	**563**	**100.5%**	**25.4**	**0.0**	**C**
WB	Left Turn	330	330	100.0%	26.9	0.0	C
	Through						
	Right Turn	240	247	102.9%	25.3	0.0	C
	Subtotal	**570**	**577**	**101.2%**	**26.2**	**0.0**	**C**
Total		**3,840**	**3,877**	**101.0%**	**19.5**	**0.0**	**B**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	400	324	81.0%	509.8	0.0	F
	Through	1,290	1,068	82.8%	454.5	0.0	F
	Right Turn	290	238	82.1%	421.5	0.0	F
	Subtotal	**1,980**	**1,630**	**82.3%**	**460.7**	**0.0**	**F**
SB	Left Turn	730	721	98.8%	120.2	0.0	F
	Through	1,360	1,357	99.8%	68.7	0.0	E
	Right Turn	300	292	97.3%	76.4	0.0	E
	Subtotal	**2,390**	**2,370**	**99.2%**	**85.3**	**0.0**	**F**
EB	Left Turn	390	250	64.1%	715.8	0.0	F
	Through	1,970	1,266	64.3%	750.1	0.0	F
	Right Turn	440	276	62.7%	707.1	0.0	F
	Subtotal	**2,800**	**1,792**	**64.0%**	**738.7**	**0.0**	**F**
WB	Left Turn	440	296	67.3%	876.3	0.0	F
	Through	990	899	90.8%	67.5	0.0	E
	Right Turn	300	273	91.0%	17.6	0.0	B
	Subtotal	**1,730**	**1,468**	**84.9%**	**221.3**	**0.0**	**F**
Total		**8,900**	**7,260**	**81.6%**	**358.4**	**0.0**	**F**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	280	278	99.3%	25.5	0.0	C
	Through	260	266	102.3%	13.5	0.0	B
	Right Turn	470	469	99.8%	17.0	0.0	B
	Subtotal	**1,010**	**1,013**	**100.3%**	**18.4**	**0.0**	**B**
SB	Left Turn	50	47	94.0%	35.4	0.0	D
	Through	220	227	103.2%	24.3	0.0	C
	Right Turn	270	268	99.3%	17.6	0.0	B
	Subtotal	**540**	**542**	**100.4%**	**21.9**	**0.0**	**C**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,550**	**1,555**	**100.3%**	**19.6**	**0.0**	**B**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	340	336	98.8%	55.1	0.0	E
	Through	530	529	99.8%	55.7	0.0	E
	Right Turn	170	174	102.4%	42.5	0.0	D
	Subtotal	**1,040**	**1,039**	**99.9%**	**53.3**	**0.0**	**D**
SB	Left Turn	180	183	101.7%	63.8	0.0	E
	Through	200	206	103.0%	39.7	0.0	D
	Right Turn	400	408	102.0%	25.2	0.0	C
	Subtotal	**780**	**797**	**102.2%**	**37.8**	**0.0**	**D**
EB	Left Turn	480	464	96.7%	118.0	0.0	F
	Through	1,860	1,814	97.5%	111.1	0.0	F
	Right Turn	560	544	97.1%	51.8	0.0	D
	Subtotal	**2,900**	**2,822**	**97.3%**	**100.8**	**0.0**	**F**
WB	Left Turn	200	203	101.5%	86.0	0.0	F
	Through	1,030	1,028	99.8%	37.9	0.0	D
	Right Turn	120	122	101.7%	21.7	0.0	C
	Subtotal	**1,350**	**1,353**	**100.2%**	**43.7**	**0.0**	**D**
Total		**6,070**	**6,011**	**99.0%**	**71.4**	**0.0**	**E**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	190	202	106.3%	53.7	0.0	D
	Through	110	112	101.8%	33.2	0.0	C
	Right Turn	230	232	100.9%	37.3	0.0	D
	Subtotal	**530**	**546**	**103.0%**	**42.5**	**0.0**	**D**
SB	Left Turn	60	60	100.0%	53.6	0.0	D
	Through	80	78	97.5%	42.5	0.0	D
	Right Turn	70	69	98.6%	7.9	0.0	A
	Subtotal	**210**	**207**	**98.6%**	**34.2**	**0.0**	**C**
EB	Left Turn	110	108	98.2%	50.9	0.0	D
	Through	700	714	102.0%	28.9	0.0	C
	Right Turn	150	153	102.0%	22.5	0.0	C
	Subtotal	**960**	**975**	**101.6%**	**30.3**	**0.0**	**C**
WB	Left Turn	350	349	99.7%	51.3	0.0	D
	Through	350	357	102.0%	20.2	0.0	C
	Right Turn	50	53	106.0%	14.3	0.0	B
	Subtotal	**750**	**759**	**101.2%**	**34.1**	**0.0**	**C**
Total		**2,450**	**2,487**	**101.5%**	**34.5**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	170	169	99.4%	44.8	0.0	D
	Through	560	551	98.4%	22.0	0.0	C
	Right Turn	560	564	100.7%	12.3	0.0	B
	Subtotal	**1,290**	**1,284**	**99.5%**	**20.7**	**0.0**	**C**
SB	Left Turn	80	77	96.3%	48.9	0.0	D
	Through	620	635	102.4%	33.3	0.0	C
	Right Turn	50	50	100.0%	30.5	0.0	C
	Subtotal	**750**	**762**	**101.6%**	**34.7**	**0.0**	**C**
EB	Left Turn	90	90	100.0%	31.0	0.0	C
	Through	20	19	95.0%	42.9	0.0	D
	Right Turn	140	143	102.1%	11.4	0.0	B
	Subtotal	**250**	**252**	**100.8%**	**20.8**	**0.0**	**C**
WB	Left Turn	400	395	98.8%	34.5	0.0	C
	Through	20	20	100.0%	52.8	0.0	D
	Right Turn	70	69	98.6%	3.9	0.0	A
	Subtotal	**490**	**484**	**98.8%**	**30.9**	**0.0**	**C**
Total		**2,780**	**2,782**	**100.1%**	**26.3**	**0.0**	**C**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	590	587	99.5%	44.9	0.0	D
	Through	710	707	99.6%	20.9	0.0	C
	Right Turn	100	102	102.0%	15.6	0.0	B
	Subtotal	**1,400**	**1,396**	**99.7%**	**30.6**	**0.0**	**C**
SB	Left Turn	30	28	93.3%	52.0	0.0	D
	Through	640	649	101.4%	46.7	0.0	D
	Right Turn	290	292	100.7%	9.5	0.0	A
	Subtotal	**960**	**969**	**100.9%**	**35.6**	**0.0**	**D**
EB	Left Turn	350	352	100.6%	50.4	0.0	D
	Through	800	806	100.8%	44.7	0.0	D
	Right Turn	1,080	1,088	100.7%	12.3	0.0	B
	Subtotal	**2,230**	**2,246**	**100.7%**	**29.9**	**0.0**	**C**
WB	Left Turn	60	63	105.0%	65.1	0.0	E
	Through	500	490	98.0%	45.8	0.0	D
	Right Turn	40	42	105.0%	7.1	0.0	A
	Subtotal	**600**	**595**	**99.2%**	**45.1**	**0.0**	**D**
Total		**5,190**	**5,206**	**100.3%**	**32.9**	**0.0**	**C**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	68	97.1%	67.8	0.0	E
	Through	310	313	101.0%	92.3	0.0	F
	Right Turn	50	48	96.0%	85.2	0.0	F
	Subtotal	**430**	**429**	**99.8%**	**87.6**	**0.0**	**F**
SB	Left Turn	270	258	95.6%	62.1	0.0	E
	Through	200	199	99.5%	56.7	0.0	E
	Right Turn	150	152	101.3%	20.3	0.0	C
	Subtotal	**620**	**609**	**98.2%**	**49.9**	**0.0**	**D**
EB	Left Turn	290	291	100.3%	69.2	0.0	E
	Through	410	402	98.0%	40.0	0.0	D
	Right Turn	40	37	92.5%	31.0	0.0	C
	Subtotal	**740**	**730**	**98.6%**	**51.2**	**0.0**	**D**
WB	Left Turn	50	48	96.0%	69.9	0.0	E
	Through	190	191	100.5%	44.6	0.0	D
	Right Turn	150	158	105.3%	16.1	0.0	B
	Subtotal	**390**	**397**	**101.8%**	**36.3**	**0.0**	**D**
Total		**2,180**	**2,165**	**99.3%**	**55.3**	**0.0**	**E**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	230	236	102.6%	35.5	0.0	D
	Through	490	486	99.2%	22.7	0.0	C
	Right Turn	80	82	102.5%	6.7	0.0	A
	Subtotal	**800**	**804**	**100.5%**	**24.8**	**0.0**	**C**
SB	Left Turn	40	40	100.0%	37.1	0.0	D
	Through	410	414	101.0%	23.0	0.0	C
	Right Turn	20	21	105.0%	12.5	0.0	B
	Subtotal	**470**	**475**	**101.1%**	**23.7**	**0.0**	**C**
EB	Left Turn	20	18	90.0%	36.6	0.0	D
	Through	180	180	100.0%	27.6	0.0	C
	Right Turn	200	198	99.0%	6.9	0.0	A
	Subtotal	**400**	**396**	**99.0%**	**17.7**	**0.0**	**B**
WB	Left Turn	80	76	95.0%	36.5	0.0	D
	Through	60	60	100.0%	19.9	0.0	B
	Right Turn	20	21	105.0%	2.7	0.0	A
	Subtotal	**160**	**157**	**98.1%**	**25.6**	**0.0**	**C**
Total		**1,830**	**1,832**	**100.1%**	**23.1**	**0.0**	**C**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	106	106.0%	15.7	0.0	B
	Through						
	Right Turn	120	120	100.0%	4.8	0.0	A
	Subtotal	**220**	**226**	**102.7%**	**9.9**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	540	536	99.3%	9.4	0.0	A
	Right Turn	220	224	101.8%	5.6	0.0	A
	Subtotal	**760**	**760**	**100.0%**	**8.3**	**0.0**	**A**
WB	Left Turn	80	80	100.0%	18.3	0.0	B
	Through	250	250	100.0%	3.6	0.0	A
	Right Turn						
	Subtotal	**330**	**330**	**100.0%**	**7.2**	**0.0**	**A**
Total		**1,310**	**1,316**	**100.5%**	**8.3**	**0.0**	**A**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	580	572	98.6%	65.9	0.0	E
	Through	300	312	104.0%	32.9	0.0	C
	Right Turn	430	435	101.2%	16.6	0.0	B
	Subtotal	**1,310**	**1,319**	**100.7%**	**41.8**	**0.0**	**D**
SB	Left Turn	50	49	98.0%	59.7	0.0	E
	Through	410	415	101.2%	70.1	0.0	E
	Right Turn	360	360	100.0%	30.2	0.0	C
	Subtotal	**820**	**824**	**100.5%**	**52.0**	**0.0**	**D**
EB	Left Turn	370	361	97.6%	70.8	0.0	E
	Through	1,290	1,296	100.5%	53.4	0.0	D
	Right Turn	430	425	98.8%	16.0	0.0	B
	Subtotal	**2,090**	**2,082**	**99.6%**	**48.8**	**0.0**	**D**
WB	Left Turn	740	739	99.9%	70.8	0.0	E
	Through	1,290	1,272	98.6%	36.2	0.0	D
	Right Turn	80	77	96.3%	7.5	0.0	A
	Subtotal	**2,110**	**2,088**	**99.0%**	**47.4**	**0.0**	**D**
Total		**6,330**	**6,313**	**99.7%**	**47.3**	**0.0**	**D**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	47	94.0%	22.1	0.0	C
	Through	10	10	100.0%	10.6	0.0	B
	Right Turn	50	51	102.0%	3.9	0.0	A
	Subtotal	**110**	**108**	**98.2%**	**12.4**	**0.0**	**B**
SB	Left Turn	100	97	97.0%	13.2	0.0	B
	Through	10	10	100.0%	15.0	0.0	B
	Right Turn	320	322	100.6%	8.6	0.0	A
	Subtotal	**430**	**429**	**99.8%**	**9.8**	**0.0**	**A**
EB	Left Turn	200	198	99.0%	20.2	0.0	C
	Through	180	180	100.0%	12.1	0.0	B
	Right Turn	50	51	102.0%	6.0	0.0	A
	Subtotal	**430**	**429**	**99.8%**	**15.1**	**0.0**	**B**
WB	Left Turn	50	52	104.0%	27.2	0.0	C
	Through	180	180	100.0%	21.6	0.0	C
	Right Turn	50	52	104.0%	10.3	0.0	B
	Subtotal	**280**	**284**	**101.4%**	**20.6**	**0.0**	**C**
Total		**1,250**	**1,250**	**100.0%**	**14.3**	**0.0**	**B**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	27	90.0%	8.8	0.0	A
	Through	40	41	102.5%	12.2	0.0	B
	Right Turn	40	37	92.5%	4.7	0.0	A
	Subtotal	**110**	**105**	**95.5%**	**8.7**	**0.0**	**A**
SB	Left Turn	40	39	97.5%	7.6	0.0	A
	Through	30	29	96.7%	11.5	0.0	B
	Right Turn	20	20	100.0%	3.4	0.0	A
	Subtotal	**90**	**88**	**97.8%**	**7.9**	**0.0**	**A**
EB	Left Turn	20	22	110.0%	4.7	0.0	A
	Through	270	266	98.5%	2.8	0.0	A
	Right Turn	30	28	93.3%	2.2	0.0	A
	Subtotal	**320**	**316**	**98.8%**	**2.9**	**0.0**	**A**
WB	Left Turn	40	37	92.5%	2.3	0.0	A
	Through	140	142	101.4%	2.3	0.0	A
	Right Turn	40	40	100.0%	0.9	0.0	A
	Subtotal	**220**	**219**	**99.5%**	**2.0**	**0.0**	**A**
Total		**740**	**728**	**98.4%**	**4.1**	**0.0**	**A**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	109	99.1%	22.2	0.0	C
	Through	60	59	98.3%	17.5	0.0	B
	Right Turn	80	84	105.0%	8.3	0.0	A
	Subtotal	**250**	**252**	**100.8%**	**16.5**	**0.0**	**B**
SB	Left Turn	100	102	102.0%	21.7	0.0	C
	Through	60	64	106.7%	17.5	0.0	B
	Right Turn	110	113	102.7%	6.0	0.0	A
	Subtotal	**270**	**279**	**103.3%**	**14.4**	**0.0**	**B**
EB	Left Turn	100	100	100.0%	27.7	0.0	C
	Through	630	636	101.0%	12.1	0.0	B
	Right Turn	50	53	106.0%	8.8	0.0	A
	Subtotal	**780**	**789**	**101.2%**	**13.9**	**0.0**	**B**
WB	Left Turn	40	38	95.0%	33.4	0.0	C
	Through	640	633	98.9%	18.7	0.0	B
	Right Turn	80	80	100.0%	12.0	0.0	B
	Subtotal	**760**	**751**	**98.8%**	**18.7**	**0.0**	**B**
Total		**2,060**	**2,071**	**100.5%**	**16.0**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	120	124	103.3%	59.8	0.0	E
	Through	550	556	101.1%	62.5	0.0	E
	Right Turn	120	123	102.5%	17.3	0.0	B
	Subtotal	**790**	**803**	**101.6%**	**55.2**	**0.0**	**E**
SB	Left Turn	340	333	97.9%	66.0	0.0	E
	Through	440	442	100.5%	58.5	0.0	E
	Right Turn	80	90	112.5%	53.3	0.0	D
	Subtotal	**860**	**865**	**100.6%**	**60.8**	**0.0**	**E**
EB	Left Turn	110	106	96.4%	94.6	0.0	F
	Through	470	468	99.6%	46.1	0.0	D
	Right Turn	50	50	100.0%	39.2	0.0	D
	Subtotal	**630**	**624**	**99.0%**	**53.8**	**0.0**	**D**
WB	Left Turn	120	98	81.7%	427.0	0.0	F
	Through	400	368	92.0%	308.8	0.0	F
	Right Turn	420	403	96.0%	60.1	0.0	E
	Subtotal	**940**	**869**	**92.4%**	**206.8**	**0.0**	**F**
Total		**3,220**	**3,161**	**98.2%**	**98.1**	**0.0**	**F**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	150	149	99.3%	37.5	0.0	D
	Through	170	174	102.4%	25.8	0.0	C
	Right Turn	180	184	102.2%	9.3	0.0	A
	Subtotal	**500**	**507**	**101.4%**	**23.3**	**0.0**	**C**
SB	Left Turn	60	55	91.7%	40.0	0.0	D
	Through	140	143	102.1%	28.5	0.0	C
	Right Turn	130	132	101.5%	11.0	0.0	B
	Subtotal	**330**	**330**	**100.0%**	**23.4**	**0.0**	**C**
EB	Left Turn	130	126	96.9%	36.5	0.0	D
	Through	460	467	101.5%	22.2	0.0	C
	Right Turn	170	171	100.6%	15.2	0.0	B
	Subtotal	**760**	**764**	**100.5%**	**23.0**	**0.0**	**C**
WB	Left Turn	130	126	96.9%	37.0	0.0	D
	Through	560	566	101.1%	22.1	0.0	C
	Right Turn	50	50	100.0%	15.7	0.0	B
	Subtotal	**740**	**742**	**100.3%**	**24.2**	**0.0**	**C**
Total		**2,330**	**2,343**	**100.6%**	**23.5**	**0.0**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	40	39	97.5%	41.7	0.0	D
	Through	560	558	99.6%	44.4	0.0	D
	Right Turn	30	27	90.0%	32.0	0.0	C
	Subtotal	**630**	**624**	**99.0%**	**43.7**	**0.0**	**D**
SB	Left Turn	390	379	97.2%	46.3	0.0	D
	Through	640	645	100.8%	26.0	0.0	C
	Right Turn	60	62	103.3%	20.6	0.0	C
	Subtotal	**1,090**	**1,086**	**99.6%**	**32.8**	**0.0**	**C**
EB	Left Turn	80	79	98.8%	46.4	0.0	D
	Through	230	225	97.8%	35.0	0.0	C
	Right Turn	30	33	110.0%	8.8	0.0	A
	Subtotal	**340**	**337**	**99.1%**	**35.1**	**0.0**	**D**
WB	Left Turn	20	18	90.0%	41.9	0.0	D
	Through	40	40	100.0%	34.6	0.0	C
	Right Turn	230	230	100.0%	9.1	0.0	A
	Subtotal	**290**	**288**	**99.3%**	**14.7**	**0.0**	**B**
Total		**2,350**	**2,335**	**99.4%**	**33.8**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	96	96.0%	31.7	0.0	C
	Through	660	661	100.2%	13.9	0.0	B
	Right Turn	50	52	104.0%	7.8	0.0	A
	Subtotal	**810**	**809**	**99.9%**	**15.6**	**0.0**	**B**
SB	Left Turn	30	26	86.7%	38.6	0.0	D
	Through	590	588	99.7%	18.7	0.0	B
	Right Turn	20	20	100.0%	5.7	0.0	A
	Subtotal	**640**	**634**	**99.1%**	**19.1**	**0.0**	**B**
EB	Left Turn	20	19	95.0%	35.7	0.0	D
	Through	160	159	99.4%	29.3	0.0	C
	Right Turn	170	162	95.3%	7.7	0.0	A
	Subtotal	**350**	**340**	**97.1%**	**19.4**	**0.0**	**B**
WB	Left Turn	40	36	90.0%	36.3	0.0	D
	Through	100	100	100.0%	26.6	0.0	C
	Right Turn	30	30	100.0%	12.0	0.0	B
	Subtotal	**170**	**166**	**97.6%**	**26.1**	**0.0**	**C**
Total		**1,970**	**1,949**	**98.9%**	**18.3**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	17	85.0%	23.1	0.0	C
	Through	400	404	101.0%	19.9	0.0	B
	Right Turn	400	408	102.0%	13.1	0.0	B
	Subtotal	**820**	**829**	**101.1%**	**16.6**	**0.0**	**B**
SB	Left Turn	140	137	97.9%	27.5	0.0	C
	Through	600	612	102.0%	18.5	0.0	B
	Right Turn	420	430	102.4%	10.7	0.0	B
	Subtotal	**1,160**	**1,179**	**101.6%**	**16.7**	**0.0**	**B**
EB	Left Turn	690	686	99.4%	23.8	0.0	C
	Through						
	Right Turn	160	164	102.5%	29.2	0.0	C
	Subtotal	**850**	**850**	**100.0%**	**24.8**	**0.0**	**C**
WB	Left Turn	300	295	98.3%	16.6	0.0	B
	Through						
	Right Turn	200	193	96.5%	24.9	0.0	C
	Subtotal	**500**	**488**	**97.6%**	**19.9**	**0.0**	**B**
Total		**3,330**	**3,346**	**100.5%**	**19.2**	**0.0**	**B**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	170	165	97.1%	18.6	0.0	B
	Through	580	588	101.4%	13.0	0.0	B
	Right Turn	270	272	100.7%	7.4	0.0	A
	Subtotal	**1,020**	**1,025**	**100.5%**	**12.4**	**0.0**	**B**
SB	Left Turn	100	97	97.0%	25.1	0.0	C
	Through	540	544	100.7%	19.0	0.0	B
	Right Turn	50	49	98.0%	7.1	0.0	A
	Subtotal	**690**	**690**	**100.0%**	**19.0**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,710**	**1,715**	**100.3%**	**15.1**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	22	110.0%	51.9	0.0	D
	Through	50	47	94.0%	42.5	0.0	D
	Right Turn	240	243	101.3%	11.3	0.0	B
	Subtotal	**310**	**312**	**100.6%**	**18.9**	**0.0**	**B**
SB	Left Turn	60	61	101.7%	62.7	0.0	E
	Through	90	92	102.2%	38.5	0.0	D
	Right Turn	820	807	98.4%	16.6	0.0	B
	Subtotal	**970**	**960**	**99.0%**	**21.6**	**0.0**	**C**
EB	Left Turn	820	817	99.6%	55.4	0.0	E
	Through	900	898	99.8%	20.2	0.0	C
	Right Turn	50	51	102.0%	4.8	0.0	A
	Subtotal	**1,770**	**1,766**	**99.8%**	**36.0**	**0.0**	**D**
WB	Left Turn	240	232	96.7%	45.2	0.0	D
	Through	1,270	1,273	100.2%	37.7	0.0	D
	Right Turn	70	72	102.9%	11.3	0.0	B
	Subtotal	**1,580**	**1,577**	**99.8%**	**37.6**	**0.0**	**D**
Total		**4,630**	**4,615**	**99.7%**	**32.4**	**0.0**	**C**

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	18	90.0%	82.9	0.0	F
	Through	570	565	99.1%	27.6	0.0	C
	Right Turn	280	283	101.1%	14.9	0.0	B
	Subtotal	**870**	**866**	**99.5%**	**24.6**	**0.0**	**C**
SB	Left Turn	50	50	100.0%	53.6	0.0	D
	Through	850	846	99.5%	35.2	0.0	D
	Right Turn	1,160	1,158	99.8%	18.4	0.0	B
	Subtotal	**2,060**	**2,054**	**99.7%**	**26.2**	**0.0**	**C**
EB	Left Turn	700	694	99.1%	44.1	0.0	D
	Through	460	461	100.2%	14.6	0.0	B
	Right Turn	40	43	107.5%	7.0	0.0	A
	Subtotal	**1,200**	**1,198**	**99.8%**	**31.4**	**0.0**	**C**
WB	Left Turn	200	195	97.5%	53.0	0.0	D
	Through	420	419	99.8%	42.2	0.0	D
	Right Turn						
	Subtotal	**620**	**614**	**99.0%**	**45.7**	**0.0**	**D**
Total		**4,750**	**4,732**	**99.6%**	**29.7**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	163	325	**365**	0	0
	Through	2,428	250	530	557	10	0
	Right Turn	2,428	250	530	557	10	0
SB	Left Turn	300	127	215	252	0	0
	Through	2,373	78	155	196	0	0
	Right Turn	2,373	78	155	196	0	0
EB	Left Turn	530	79	271	297	0	0
	Through	3,295	417	702	702	12	0
	Right Turn	410	169	**442**	**470**	0	0
WB	Left Turn	580	181	297	324	0	0
	Through	2,518	274	408	456	0	0
	Right Turn	530	34	74	98	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	214	348	348	0	0
	Through	923	62	107	129	0	0
	Right Turn	850	3	76	75	0	0
SB	Left Turn	550	115	208	230	0	0
	Through	3,946	116	216	228	0	0
	Right Turn	3,946	89	207	227	0	0
EB	Left Turn	715	31	150	165	0	0
	Through	2,518	403	982	1738	14	0
	Right Turn	355	164	**415**	**475**	0	0
WB	Left Turn	920	229	360	380	0	0
	Through	2,590	151	262	325	0	0
	Right Turn	750	20	49	60	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	82	173	**244**	0	0
	Through	464	185	288	348	10	0
	Right Turn	464	178	278	320	0	0
SB	Left Turn	290	**349**	**350**	**350**	86	0
	Through	5,159	2776	4557	4389	2	0
	Right Turn	5,159	2521	4749	4320	0	0
EB	Left Turn	250	**309**	**310**	**310**	84	0
	Through	5,459	2439	4070	3728	4	0
	Right Turn	5,459	2439	4070	3728	4	0
WB	Left Turn	90	33	**107**	**150**	1	0
	Through	491	324	**508**	**500**	55	2
	Right Turn	160	97	**238**	**220**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	99	165	190	0	0
	Right Turn						
SB	Left Turn						
	Through	464	105	223	255	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	73	128	149	0	0
	Through						
	Right Turn	672	73	128	149	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	82	152	188	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	268	432	450	0	0
	Right Turn	491	268	432	450	0	0
WB	Left Turn	530	81	144	180	0	0
	Through	3,699	14	96	145	0	0
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	91	172	203	0	0
	Through	737	87	147	176	0	0
	Right Turn	737	122	197	245	0	0
SB	Left Turn	550	71	134	169	0	0
	Through	1,038	108	170	194	0	0
	Right Turn	650	76	142	169	0	0
EB	Left Turn	300	74	148	230	0	0
	Through						
	Right Turn	1,111	176	288	330	1	0
WB	Left Turn	300	0	0	0	0	0
	Through						
	Right Turn	1,079	0	0	0	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	**276**	**331**	**285**	32	0
	Through	3,853	2645	**4310**	**3897**	72	16
	Right Turn	200	**241**	**328**	**260**	6	0
SB	Left Turn	500	484	**705**	**598**	18	0
	Through	1,480	627	1263	1118	9	5
	Right Turn	1,480	556	950	901	0	0
EB	Left Turn	350	**372**	**536**	**410**	0	0
	Through	4,930	4647	**5738**	**4982**	71	73
	Right Turn	350	**383**	**526**	**410**	0	0
WB	Left Turn	300	**742**	**363**	**360**	90	0
	Through	5,965	2579	4219	3518	0	35
	Right Turn	350	84	200	252	0	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	131	229	271	0	0
	Through	902	34	79	102	0	0
	Right Turn	600	130	238	292	0	0
SB	Left Turn	650	35	78	99	0	0
	Through	953	59	108	134	0	0
	Right Turn	650	89	171	216	0	0
EB	Left Turn	500	206	351	381	0	0
	Through						
	Right Turn	860	171	275	315	0	0
WB	Left Turn	500	85	138	158	0	0
	Through						
	Right Turn	901	46	103	138	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	178	262	**309**	0	0
	Through	1,262	253	428	467	5	0
	Right Turn	1,262	252	419	448	0	0
SB	Left Turn	300	158	255	295	0	0
	Through	1,262	102	337	494	0	0
	Right Turn	300	223	**371**	**357**	6	0
EB	Left Turn	300	**301**	**432**	**360**	3	0
	Through	1,409	1039	**1574**	1379	54	10
	Right Turn	300	250	**460**	**360**	1	0
WB	Left Turn	300	198	**336**	**343**	6	0
	Through	3,308	252	391	435	1	0
	Right Turn	3,308	196	289	326	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	158	**245**	**252**	6	0
	Through	2,570	87	193	267	0	0
	Right Turn	2,570	158	267	305	0	0
SB	Left Turn	150	59	120	**165**	1	0
	Through	2,170	67	140	183	12	0
	Right Turn	75	41	**93**	**127**	0	0
EB	Left Turn	525	88	157	184	0	0
	Through	2,722	201	311	359	0	0
	Right Turn	2,722	209	322	359	0	0
WB	Left Turn	625	132	203	224	0	0
	Through	3,227	69	132	153	0	0
	Right Turn	3,227	92	162	184	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	126	215	262	0	0
	Through	1,181	129	211	247	0	0
	Right Turn	1,181	123	216	281	0	0
SB	Left Turn	315	70	171	236	0	0
	Through	3,988	169	311	369	1	0
	Right Turn	3,988	221	348	408	0	0
EB	Left Turn	410	62	123	146	0	0
	Through	1,731	17	52	80	0	0
	Right Turn	1,731	57	102	131	0	0
WB	Left Turn	1,878	160	242	263	0	0
	Through	1,878	17	53	74	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	224	319	345	0	0
	Through	2,052	165	245	275	0	0
	Right Turn	2,052	166	263	296	0	0
SB	Left Turn	300	30	97	190	0	0
	Through	522	272	395	424	6	0
	Right Turn	300	74	145	230	0	0
EB	Left Turn	1,375	168	242	277	0	0
	Through	1,375	263	395	493	1	0
	Right Turn	300	17	141	252	0	0
WB	Left Turn	300	62	115	136	0	0
	Through	1,274	175	246	263	0	0
	Right Turn	300	20	50	67	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	126	**322**	**310**	0	0
	Through	1,227	459	837	865	40	0
	Right Turn	1,227	459	837	865	40	0
SB	Left Turn	175	**203**	**279**	**235**	24	0
	Through	1,669	326	673	769	29	0
	Right Turn	100	94	**184**	**160**	1	0
EB	Left Turn	3,220	255	434	455	0	0
	Through	3,220	254	435	489	0	0
	Right Turn	3,220	254	435	489	0	0
WB	Left Turn	75	61	**129**	**134**	10	0
	Through	3,356	150	265	335	36	0
	Right Turn	150	85	**190**	**210**	0	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	138	242	290	0	0
	Through	1,058	166	295	354	1	0
	Right Turn	1,058	53	180	278	0	0
SB	Left Turn	300	34	74	92	0	0
	Through	414	111	180	219	0	0
	Right Turn	414	89	162	198	0	0
EB	Left Turn	300	18	51	67	0	0
	Through	1,163	102	178	202	0	0
	Right Turn	300	62	107	140	0	0
WB	Left Turn	300	57	112	136	0	0
	Through	1,019	30	75	112	0	0
	Right Turn	300	8	28	43	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	53	101	127	0	0
	Through						
	Right Turn	150	39	68	83	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	86	136	158	0	0
	Right Turn	300	87	148	177	0	0
WB	Left Turn	400	46	88	107	0	0
	Through	873	22	55	66	0	0
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	726	193	294	323	0	0
	Through	726	101	172	198	0	0
	Right Turn	840	164	282	317	0	0
SB	Left Turn	520	32	70	92	0	0
	Through	1,217	186	297	329	0	0
	Right Turn	720	174	297	359	0	0
EB	Left Turn	800	180	285	288	0	0
	Through	1,066	337	480	518	0	0
	Right Turn	1,000	159	278	327	0	0
WB	Left Turn	1,589	249	361	390	0	0
	Through	1,589	252	342	370	0	0
	Right Turn	850	19	54	83	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	36	80	100	0	0
	Through	1,487	29	63	73	0	0
	Right Turn	1,487	29	63	73	0	0
SB	Left Turn	797	49	104	134	0	0
	Through	797	49	104	134	0	0
	Right Turn	300	91	163	200	0	0
EB	Left Turn	300	90	158	186	0	0
	Through	2,871	52	116	154	0	0
	Right Turn	2,871	52	116	154	0	0
WB	Left Turn	300	40	84	101	0	0
	Through	5,346	86	157	203	0	0
	Right Turn	5,346	86	157	203	0	0

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,498	39	75	97	10	0
	Through	1,498	39	75	97	10	0
	Right Turn	20	**25**	**56**	**62**	4	0
SB	Left Turn	1,216	37	67	80	9	0
	Through	1,216	37	67	80	9	0
	Right Turn	20	18	**49**	**60**	2	0
EB	Left Turn	2,720	6	32	65	0	0
	Through	2,720	6	32	65	0	0
	Right Turn	2,720	6	32	65	0	0
WB	Left Turn	2,487	8	33	57	0	0
	Through	2,487	8	33	57	0	0
	Right Turn	2,487	8	33	57	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	61	107	124	0	0
	Through	1,264	58	107	122	0	0
	Right Turn	1,264	58	107	122	0	0
SB	Left Turn	100	48	90	**106**	1	0
	Through	1,626	33	78	109	1	0
	Right Turn	75	40	**76**	**104**	1	0
EB	Left Turn	250	55	105	119	0	0
	Through	1,565	85	158	186	0	0
	Right Turn	1,565	100	177	216	0	0
WB	Left Turn	250	31	63	73	0	0
	Through	2,560	149	232	263	0	0
	Right Turn	300	109	200	247	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	306	527	561	0	0
	Through	1,934	319	562	618	17	0
	Right Turn	300	120	**330**	**309**	0	0
SB	Left Turn	5,862	375	599	613	0	0
	Through	5,862	375	599	613	0	0
	Right Turn	5,862	339	550	573	0	0
EB	Left Turn	50	**94**	**132**	**110**	59	0
	Through	2,671	286	602	689	44	0
	Right Turn	200	198	**292**	**260**	7	0
WB	Left Turn	300	287	**473**	**360**	15	0
	Through	2,545	1449	**2637**	2203	66	9
	Right Turn	2,545	1108	**2607**	2126	0	5

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	72	133	193	0	0
	Through	1,873	101	195	259	28	0
	Right Turn	50	**75**	**127**	**110**	6	0
SB	Left Turn	100	45	95	**129**	1	0
	Through	2,914	87	163	210	6	0
	Right Turn	100	57	**117**	**157**	1	0
EB	Left Turn	250	77	141	182	0	0
	Through	1,994	123	204	250	0	0
	Right Turn	1,994	136	219	251	0	0
WB	Left Turn	200	78	144	179	0	0
	Through	2,690	122	202	234	1	0
	Right Turn	2,690	139	220	253	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	35	96	141	0	0
	Through	1,498	194	306	372	1	0
	Right Turn	300	174	281	**311**	0	0
SB	Left Turn	400	238	378	399	1	0
	Through	2,123	117	243	315	0	0
	Right Turn	2,123	134	253	286	0	0
EB	Left Turn	225	69	129	158	0	0
	Through	5,602	128	211	244	0	0
	Right Turn	225	19	53	86	0	0
WB	Left Turn	225	19	52	69	0	0
	Through	2,237	30	73	99	0	0
	Right Turn	225	66	121	158	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	66	124	149	0	0
	Through	1,326	116	202	242	0	0
	Right Turn	1,326	91	181	223	0	0
SB	Left Turn	350	27	66	84	0	0
	Through	1,404	136	213	244	0	0
	Right Turn	350	12	41	60	0	0
EB	Left Turn	225	16	47	63	0	0
	Through	1,997	79	154	206	0	0
	Right Turn	225	41	87	118	0	0
WB	Left Turn	175	34	78	99	0	0
	Through	2,609	70	135	173	0	0
	Right Turn	2,609	70	135	173	0	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	12	39	58	0	0
	Through	1,357	72	135	167	0	0
	Right Turn	700	104	176	213	0	0
SB	Left Turn	600	73	140	174	0	0
	Through	1,181	97	165	189	0	0
	Right Turn	600	93	158	201	0	0
EB	Left Turn	500	177	272	326	0	0
	Through						
	Right Turn	500	97	169	199	0	0
WB	Left Turn	500	64	108	126	0	0
	Through						
	Right Turn	350	103	170	202	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 25 **NCC SPUI & Roselle** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	65	127	147	0	0
	Through	671	101	198	231	0	0
	Right Turn	400	38	87	106	0	0
SB	Left Turn	550	48	101	125	0	0
	Through	1,058	85	165	195	0	0
	Right Turn	550	4	21	39	0	0
EB	Left Turn	500	24	57	78	0	0
	Through						
	Right Turn	1,221	152	248	295	0	0
WB	Left Turn	500	42	74	88	0	0
	Through						
	Right Turn	1,160	79	141	167	0	0

Intersection 26 **Crane Rd & NCC** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	150	22	61	84	0	0
	Through	914	34	81	99	0	0
	Right Turn	300	73	141	176	0	0
SB	Left Turn	275	62	128	154	0	0
	Through	2,754	66	133	160	0	0
	Right Turn	2,754	145	226	262	0	0
EB	Left Turn	1,598	303	505	484	0	0
	Through						
	Right Turn	1,598	110	195	225	0	0
WB	Left Turn	930	169	284	351	0	0
	Through	1,342	254	359	377	0	0
	Right Turn	1,342	219	317	346	0	0

Intersection 27 **Albers Rd & NCC** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn						
	Through						
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 28 **STERNS & NCC** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	239	27	63	87	0	0
SB	Left Turn	629	24	59	72	0	0
	Through	629	24	59	72	0	0
	Right Turn	300	58	101	129	0	0
EB	Left Turn	870	111	190	232	0	0
	Through	1,994	52	102	125	0	0
	Right Turn	1,994	34	86	121	0	0
WB	Left Turn	570	16	46	65	0	0
	Through	2,784	72	124	138	0	0
	Right Turn	2,784	74	126	140	0	0

Intersection 29 **NCC & SR 120/108** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	Intersection Not Analyzed with SimTraffic					
	Through						
	Right Turn						
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn						
	Through						
	Right Turn						

Intersection 30 **SR 108 (McHenry Ave)#2 & Charity** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	60	110	128	0	0
	Through	1,038	82	147	166	0	0
	Right Turn	300	15	48	70	0	0
SB	Left Turn	300	37	79	96	0	0
	Through	2,422	79	144	179	0	0
	Right Turn	300	13	40	60	0	0
EB	Left Turn	300	34	75	89	0	0
	Through	882	47	91	112	0	0
	Right Turn	882	47	91	112	0	0
WB	Left Turn	300	31	70	83	0	0
	Through	1,222	24	56	78	0	0
	Right Turn	1,222	24	56	78	0	0

Intersection 31 **SR 108 (McHenry Ave)#3 & Galaxy Way** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	56	179	**355**	0	0
	Through	834	359	551	658	14	0
	Right Turn	400	53	146	241	0	0
SB	Left Turn	450	131	206	237	0	0
	Through	757	147	231	262	0	0
	Right Turn	757	22	58	72	0	0
EB	Left Turn	300	92	163	200	0	0
	Through	430	61	127	186	0	0
	Right Turn	430	61	127	186	0	0
WB	Left Turn	300	132	238	283	0	0
	Through	638	175	319	364	3	0
	Right Turn	638	175	319	364	3	0

Intersection 32 **Coffee Rd & Frontage Road North** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	36	84	108	0	0
	Through	953	98	172	195	0	0
	Right Turn	300	25	59	74	0	0
SB	Left Turn	300	36	79	107	0	0
	Through	1,350	51	104	128	0	0
	Right Turn	300	15	43	57	0	0
EB	Left Turn	300	30	65	80	0	0
	Through	1,233	29	62	83	0	0
	Right Turn	1,233	29	62	83	0	0
WB	Left Turn	300	55	102	120	0	0
	Through	2,041	23	56	75	0	0
	Right Turn	2,041	23	56	75	0	0

Intersection 33 **Coffee Rd & Frontage Road South** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	27	65	92	0	0
	Through	1,259	90	175	208	0	0
	Right Turn	300	3	17	35	0	0
SB	Left Turn	300	45	102	146	0	0
	Through	902	57	109	128	0	0
	Right Turn	300	6	27	49	0	0
EB	Left Turn	300	59	110	140	0	0
	Through	747	30	67	84	0	0
	Right Turn	747	30	67	84	0	0
WB	Left Turn	300	31	67	82	0	0
	Through	1,093	52	99	124	0	0
	Right Turn	1,093	52	99	124	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 1B**
Queue Length | **PM Peak Hour**

Intersection 34 **Oakdale Rd & Frontage Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	65	118	148	0	0
	Through	370	111	207	264	0	0
	Right Turn	300	24	56	68	0	0
SB	Left Turn	300	62	117	140	0	0
	Through	1,357	101	171	205	0	0
	Right Turn	1,357	23	55	74	0	0
EB	Left Turn	300	49	96	122	0	0
	Through	636	41	78	93	0	0
	Right Turn	636	41	78	93	0	0
WB	Left Turn	300	40	89	111	0	0
	Through	496	40	77	95	0	0
	Right Turn	496	40	77	95	0	0

Intersection 35 **Roselle & Frontage Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	704	141	238	277	0	0
	Right Turn	704	113	211	299	0	0
SB	Left Turn	300	71	126	151	0	0
	Through	671	73	130	162	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	300	66	120	140	0	0
	Through						
	Right Turn	1,664	60	108	141	0	0

Intersection 36 **Davis & Claribel Realigned (N)** **Side Street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	50	2	15	26	0	0
	Through	778	0	4	4	0	0
	Right Turn	778	0	4	4	0	0
SB	Left Turn	50	2	13	29	0	0
	Through						
	Right Turn	1,110	0	2	2	0	0
EB	Left Turn						
	Through						
	Right Turn	662	22	56	69	0	0
WB	Left Turn	702	25	57	72	0	0
	Through	702	25	57	72	0	0
	Right Turn	702	25	57	72	0	0

Intersection 37 **Claus Rd & Claribel Realigned (N)** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	450	52	108	144	0	0
	Through	1,217	132	231	277	0	0
	Right Turn						
SB	Left Turn	300	40	86	113	0	0
	Through						
	Right Turn	1,028	105	187	218	0	0
EB	Left Turn						
	Through	1,110	41	80	105	0	0
	Right Turn	1,110	63	121	142	0	0
WB	Left Turn	417	152	243	276	0	0
	Through	417	152	243	276	0	0
	Right Turn	417	152	243	276	0	0

Intersection 38 **New Claribel Road (S) & Claus Rd** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	1,878	289	581	826	6	0
	Right Turn	300	94	263	**364**	0	0
SB	Left Turn	890	233	460	412	0	0
	Through	1,205	113	189	221	0	0
	Right Turn	1,205	108	204	243	0	0
EB	Left Turn	726	1	9	15	0	0
	Through						
	Right Turn						
WB	Left Turn	437	74	138	177	0	0
	Through						
	Right Turn	300	79	140	176	0	0

Intersection 39 **STERNS** **All-Way Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	12	44	63	0	0
	Through	629	1	7	15	0	0
	Right Turn	629	1	7	15	0	0
SB	Left Turn	200	14	47	66	0	0
	Through						
	Right Turn	945	0	9	12	0	0
EB	Left Turn						
	Through						
	Right Turn	660	49	84	100	0	0
WB	Left Turn	1,331	46	84	110	0	0
	Through	1,331	46	84	110	0	0
	Right Turn	1,331	46	84	110	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	220	216	98.2%	51.7	0.0	D
	Through	80	80	100.0%	30.7	0.0	C
	Right Turn	40	41	102.5%	15.3	0.0	B
	Subtotal	**340**	**337**	**99.1%**	**42.3**	**0.0**	**D**
SB	Left Turn	30	27	90.0%	46.2	0.0	D
	Through	90	87	96.7%	44.5	0.0	D
	Right Turn	70	73	104.3%	26.2	0.0	C
	Subtotal	**190**	**187**	**98.4%**	**37.6**	**0.0**	**D**
EB	Left Turn	70	66	94.3%	50.2	0.0	D
	Through	1,150	1,152	100.2%	35.4	0.0	D
	Right Turn	140	146	104.3%	12.5	0.0	B
	Subtotal	**1,360**	**1,364**	**100.3%**	**33.7**	**0.0**	**C**
WB	Left Turn	220	217	98.6%	54.2	0.0	D
	Through	1,670	1,662	99.5%	35.4	0.0	D
	Right Turn	70	69	98.6%	16.1	0.0	B
	Subtotal	**1,960**	**1,948**	**99.4%**	**36.8**	**0.0**	**D**
Total		**3,850**	**3,836**	**99.6%**	**36.2**	**0.0**	**D**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	160	159	99.4%	32.3	0.0	C
	Through	90	86	95.6%	24.0	0.0	C
	Right Turn	170	170	100.0%	2.5	0.0	A
	Subtotal	**420**	**415**	**98.8%**	**18.4**	**0.0**	**B**
SB	Left Turn	40	39	97.5%	39.2	0.0	D
	Through	110	110	100.0%	30.4	0.0	C
	Right Turn	60	60	100.0%	18.4	0.0	B
	Subtotal	**210**	**209**	**99.5%**	**28.6**	**0.0**	**C**
EB	Left Turn	50	49	98.0%	58.5	0.0	E
	Through	710	718	101.1%	35.9	0.0	D
	Right Turn	460	462	100.4%	31.3	0.0	C
	Subtotal	**1,220**	**1,229**	**100.7%**	**35.1**	**0.0**	**D**
WB	Left Turn	610	605	99.2%	38.7	0.0	D
	Through	1,740	1,725	99.1%	22.6	0.0	C
	Right Turn	50	52	104.0%	5.1	0.0	A
	Subtotal	**2,400**	**2,382**	**99.3%**	**26.3**	**0.0**	**C**
Total		**4,250**	**4,235**	**99.6%**	**28.2**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	40	39	97.5%	58.3	0.0	E
	Through	470	472	100.4%	37.9	0.0	D
	Right Turn	20	18	90.0%	30.1	0.0	C
	Subtotal	**530**	**529**	**99.8%**	**39.1**	**0.0**	**D**
SB	Left Turn	80	80	100.0%	66.1	0.0	E
	Through	580	581	100.2%	52.9	0.0	D
	Right Turn	240	248	103.3%	50.2	0.0	D
	Subtotal	**900**	**909**	**101.0%**	**53.3**	**0.0**	**D**
EB	Left Turn	200	193	96.5%	65.2	0.0	E
	Through	300	303	101.0%	31.3	0.0	C
	Right Turn	70	70	100.0%	21.5	0.0	C
	Subtotal	**570**	**566**	**99.3%**	**41.6**	**0.0**	**D**
WB	Left Turn	20	14	70.0%	125.7	0.0	F
	Through	620	496	80.0%	84.2	0.0	F
	Right Turn	150	112	74.7%	51.1	0.0	D
	Subtotal	**790**	**622**	**78.7%**	**79.2**	**0.0**	**E**
Total		**2,790**	**2,626**	**94.1%**	**54.1**	**0.0**	**D**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	510	514	100.8%	9.5	0.0	A
	Right Turn	110	109	99.1%	0.3	0.0	A
	Subtotal	**620**	**623**	**100.5%**	**7.9**	**0.0**	**A**
SB	Left Turn						
	Through	670	668	99.7%	14.6	0.0	B
	Right Turn						
	Subtotal	**670**	**668**	**99.7%**	**14.6**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	250	200	80.0%	18.9	0.0	B
	Through	20	14	70.0%	5.9	0.0	A
	Right Turn						
	Subtotal	**270**	**214**	**79.3%**	**18.0**	**0.0**	**B**
Total		**1,560**	**1,505**	**96.5%**	**12.3**	**0.0**	**B**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	110	109	99.1%	4.6	0.0	A
	Subtotal	**110**	**109**	**99.1%**	**4.6**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	380	380	100.0%	14.0	0.0	B
	Right Turn	20	21	105.0%	6.9	0.0	A
	Subtotal	**400**	**401**	**100.3%**	**13.6**	**0.0**	**B**
WB	Left Turn	250	194	77.6%	312.2	0.0	F
	Through	790	622	78.7%	373.1	0.0	F
	Right Turn						
	Subtotal	**1,040**	**816**	**78.5%**	**358.6**	**0.0**	**F**
Total		**1,550**	**1,326**	**85.5%**	**225.2**	**0.0**	**F**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	130	124	95.4%	20.5	0.0	C
	Through	430	429	99.8%	14.3	0.0	B
	Right Turn	140	142	101.4%	6.0	0.0	A
	Subtotal	**700**	**695**	**99.3%**	**13.7**	**0.0**	**B**
SB	Left Turn	50	51	102.0%	16.5	0.0	B
	Through	530	526	99.2%	15.6	0.0	B
	Right Turn	280	279	99.6%	9.6	0.0	A
	Subtotal	**860**	**856**	**99.5%**	**13.7**	**0.0**	**B**
EB	Left Turn	40	38	95.0%	19.6	0.0	B
	Through						
	Right Turn	150	161	107.3%	21.3	0.0	C
	Subtotal	**190**	**199**	**104.7%**	**21.0**	**0.0**	**C**
WB	Left Turn	290	289	99.7%	22.8	0.0	C
	Through						
	Right Turn	270	281	104.1%	21.1	0.0	C
	Subtotal	**560**	**570**	**101.8%**	**22.0**	**0.0**	**C**
Total		**2,310**	**2,320**	**100.4%**	**16.4**	**0.0**	**B**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	310	292	94.2%	229.9	0.0	F
	Through	930	914	98.3%	33.4	0.0	C
	Right Turn	240	236	98.3%	14.9	0.0	B
	Subtotal	**1,480**	**1,442**	**97.4%**	**70.2**	**0.0**	**E**
SB	Left Turn	160	159	99.4%	98.4	0.0	F
	Through	610	613	100.5%	32.4	0.0	C
	Right Turn	170	164	96.5%	20.7	0.0	C
	Subtotal	**940**	**936**	**99.6%**	**41.6**	**0.0**	**D**
EB	Left Turn	320	293	91.6%	355.8	0.0	F
	Through	910	915	100.5%	47.4	0.0	D
	Right Turn	240	244	101.7%	12.5	0.0	B
	Subtotal	**1,470**	**1,452**	**98.8%**	**103.8**	**0.0**	**F**
WB	Left Turn	450	406	90.2%	310.1	0.0	F
	Through	1,660	1,500	90.4%	306.7	0.0	F
	Right Turn	450	401	89.1%	278.1	0.0	F
	Subtotal	**2,560**	**2,307**	**90.1%**	**302.3**	**0.0**	**F**
Total		**6,450**	**6,137**	**95.1%**	**161.0**	**0.0**	**F**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	420	421	100.2%	30.1	0.0	C
	Through	200	198	99.0%	8.9	0.0	A
	Right Turn	260	252	96.9%	6.1	0.0	A
	Subtotal	**880**	**871**	**99.0%**	**18.3**	**0.0**	**B**
SB	Left Turn	30	29	96.7%	32.0	0.0	C
	Through	290	286	98.6%	22.3	0.0	C
	Right Turn	450	458	101.8%	47.8	0.0	D
	Subtotal	**770**	**773**	**100.4%**	**37.8**	**0.0**	**D**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,650**	**1,644**	**99.6%**	**27.5**	**0.0**	**C**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	460	456	99.1%	68.8	0.0	E
	Through	410	416	101.5%	26.8	0.0	C
	Right Turn	150	147	98.0%	16.8	0.0	B
	Subtotal	**1,020**	**1,019**	**99.9%**	**44.2**	**0.0**	**D**
SB	Left Turn	60	55	91.7%	48.4	0.0	D
	Through	440	439	99.8%	49.2	0.0	D
	Right Turn	440	447	101.6%	91.9	0.0	F
	Subtotal	**940**	**941**	**100.1%**	**69.4**	**0.0**	**E**
EB	Left Turn	190	184	96.8%	60.5	0.0	E
	Through	770	773	100.4%	31.6	0.0	C
	Right Turn	250	248	99.2%	11.0	0.0	B
	Subtotal	**1,210**	**1,205**	**99.6%**	**31.8**	**0.0**	**C**
WB	Left Turn	180	174	96.7%	139.4	0.0	F
	Through	1,620	1,577	97.3%	144.3	0.0	F
	Right Turn	120	111	92.5%	122.4	0.0	F
	Subtotal	**1,920**	**1,862**	**97.0%**	**142.5**	**0.0**	**F**
Total		**5,090**	**5,027**	**98.8%**	**82.4**	**0.0**	**F**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	140	139	99.3%	42.1	0.0	D
	Through	60	59	98.3%	27.0	0.0	C
	Right Turn	110	107	97.3%	29.7	0.0	C
	Subtotal	**310**	**305**	**98.4%**	**34.8**	**0.0**	**C**
SB	Left Turn	70	72	102.9%	45.5	0.0	D
	Through	110	114	103.6%	34.1	0.0	C
	Right Turn	100	98	98.0%	10.6	0.0	B
	Subtotal	**280**	**284**	**101.4%**	**28.9**	**0.0**	**C**
EB	Left Turn	50	47	94.0%	45.5	0.0	D
	Through	410	414	101.0%	17.8	0.0	B
	Right Turn	80	82	102.5%	10.2	0.0	B
	Subtotal	**540**	**543**	**100.6%**	**19.0**	**0.0**	**B**
WB	Left Turn	200	206	103.0%	52.2	0.0	D
	Through	680	682	100.3%	19.1	0.0	B
	Right Turn	50	52	104.0%	15.3	0.0	B
	Subtotal	**930**	**940**	**101.1%**	**26.1**	**0.0**	**C**
Total		**2,060**	**2,072**	**100.6%**	**25.9**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	49	98.0%	43.4	0.0	D
	Through	290	289	99.7%	21.7	0.0	C
	Right Turn	240	237	98.8%	6.6	0.0	A
	Subtotal	**580**	**575**	**99.1%**	**17.3**	**0.0**	**B**
SB	Left Turn	70	69	98.6%	43.3	0.0	D
	Through	620	623	100.5%	27.4	0.0	C
	Right Turn	50	50	100.0%	24.0	0.0	C
	Subtotal	**740**	**742**	**100.3%**	**28.6**	**0.0**	**C**
EB	Left Turn	90	87	96.7%	28.6	0.0	C
	Through	30	28	93.3%	40.8	0.0	D
	Right Turn	80	82	102.5%	11.6	0.0	B
	Subtotal	**200**	**197**	**98.5%**	**23.3**	**0.0**	**C**
WB	Left Turn	450	459	102.0%	33.2	0.0	C
	Through	20	19	95.0%	41.8	0.0	D
	Right Turn	70	69	98.6%	3.8	0.0	A
	Subtotal	**540**	**547**	**101.3%**	**29.8**	**0.0**	**C**
Total		**2,060**	**2,061**	**100.0%**	**25.3**	**0.0**	**C**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	870	870	100.0%	68.4	0.0	E
	Through	380	385	101.3%	15.7	0.0	B
	Right Turn	40	39	97.5%	7.9	0.0	A
	Subtotal	**1,290**	**1,294**	**100.3%**	**50.9**	**0.0**	**D**
SB	Left Turn	30	26	86.7%	60.4	0.0	E
	Through	550	556	101.1%	63.4	0.0	E
	Right Turn	520	518	99.6%	41.1	0.0	D
	Subtotal	**1,100**	**1,100**	**100.0%**	**52.8**	**0.0**	**D**
EB	Left Turn	400	405	101.3%	60.7	0.0	E
	Through	280	276	98.6%	31.5	0.0	C
	Right Turn	300	297	99.0%	3.3	0.0	A
	Subtotal	**980**	**978**	**99.8%**	**35.0**	**0.0**	**C**
WB	Left Turn	30	28	93.3%	59.1	0.0	E
	Through	550	541	98.4%	67.5	0.0	E
	Right Turn	30	31	103.3%	8.7	0.0	A
	Subtotal	**610**	**600**	**98.4%**	**64.1**	**0.0**	**E**
Total		**3,980**	**3,972**	**99.8%**	**49.5**	**0.0**	**D**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	69	98.6%	31.6	0.0	C
	Through	250	256	102.4%	43.0	0.0	D
	Right Turn	50	53	106.0%	34.3	0.0	C
	Subtotal	**370**	**378**	**102.2%**	**39.7**	**0.0**	**D**
SB	Left Turn	180	181	100.6%	36.2	0.0	D
	Through	200	197	98.5%	37.7	0.0	D
	Right Turn	160	162	101.3%	10.5	0.0	B
	Subtotal	**540**	**540**	**100.0%**	**29.0**	**0.0**	**C**
EB	Left Turn	130	129	99.2%	44.8	0.0	D
	Through	300	293	97.7%	30.3	0.0	C
	Right Turn	40	38	95.0%	23.9	0.0	C
	Subtotal	**470**	**460**	**97.9%**	**33.8**	**0.0**	**C**
WB	Left Turn	40	38	95.0%	81.2	0.0	F
	Through	330	326	98.8%	58.6	0.0	E
	Right Turn	230	235	102.2%	33.5	0.0	C
	Subtotal	**600**	**599**	**99.8%**	**50.2**	**0.0**	**D**
Total		**1,980**	**1,977**	**99.8%**	**38.6**	**0.0**	**D**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	140	135	96.4%	28.5	0.0	C
	Through	360	364	101.1%	15.2	0.0	B
	Right Turn	30	31	103.3%	3.8	0.0	A
	Subtotal	**530**	**530**	**100.0%**	**17.9**	**0.0**	**B**
SB	Left Turn	20	21	105.0%	30.1	0.0	C
	Through	440	439	99.8%	15.4	0.0	B
	Right Turn	20	20	100.0%	6.4	0.0	A
	Subtotal	**480**	**480**	**100.0%**	**15.7**	**0.0**	**B**
EB	Left Turn	40	36	90.0%	26.4	0.0	C
	Through	40	40	100.0%	16.8	0.0	B
	Right Turn	210	208	99.0%	6.3	0.0	A
	Subtotal	**290**	**284**	**97.9%**	**10.3**	**0.0**	**B**
WB	Left Turn	30	28	93.3%	29.8	0.0	C
	Through	80	77	96.3%	19.1	0.0	B
	Right Turn	50	51	102.0%	3.3	0.0	A
	Subtotal	**160**	**156**	**97.5%**	**15.9**	**0.0**	**B**
Total		**1,460**	**1,450**	**99.3%**	**15.5**	**0.0**	**B**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	160	162	101.3%	16.8	0.0	B
	Through						
	Right Turn	250	254	101.6%	6.3	0.0	A
	Subtotal	**410**	**416**	**101.5%**	**10.4**	**0.0**	**B**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	300	306	102.0%	14.9	0.0	B
	Right Turn	160	156	97.5%	7.4	0.0	A
	Subtotal	**460**	**462**	**100.4%**	**12.4**	**0.0**	**B**
WB	Left Turn	290	290	100.0%	45.0	0.0	D
	Through	480	492	102.5%	5.9	0.0	A
	Right Turn						
	Subtotal	**770**	**782**	**101.6%**	**20.4**	**0.0**	**C**
Total		**1,640**	**1,660**	**101.2%**	**15.7**	**0.0**	**B**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	200	195	97.5%	51.7	0.0	D
	Through	280	282	100.7%	37.0	0.0	D
	Right Turn	180	179	99.4%	6.3	0.0	A
	Subtotal	**660**	**656**	**99.4%**	**33.0**	**0.0**	**C**
SB	Left Turn	30	30	100.0%	49.2	0.0	D
	Through	260	260	100.0%	49.3	0.0	D
	Right Turn	490	495	101.0%	20.8	0.0	C
	Subtotal	**780**	**785**	**100.6%**	**31.3**	**0.0**	**C**
EB	Left Turn	400	407	101.8%	31.1	0.0	C
	Through	1,090	1,100	100.9%	17.8	0.0	B
	Right Turn	260	266	102.3%	4.9	0.0	A
	Subtotal	**1,750**	**1,773**	**101.3%**	**18.9**	**0.0**	**B**
WB	Left Turn	210	214	101.9%	50.3	0.0	D
	Through	930	939	101.0%	32.4	0.0	C
	Right Turn	70	71	101.4%	7.9	0.0	A
	Subtotal	**1,210**	**1,224**	**101.2%**	**34.1**	**0.0**	**C**
Total		**4,400**	**4,438**	**100.9%**	**27.4**	**0.0**	**C**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	100	98	98.0%	13.5	0.0	B
	Through						
	Right Turn	210	212	101.0%	6.1	0.0	A
	Subtotal	**310**	**310**	**100.0%**	**8.4**	**0.0**	**A**
EB	Left Turn	140	139	99.3%	15.3	0.0	B
	Through	250	261	104.4%	6.0	0.0	A
	Right Turn						
	Subtotal	**390**	**400**	**102.6%**	**9.2**	**0.0**	**A**
WB	Left Turn						
	Through	220	215	97.7%	17.4	0.0	B
	Right Turn	80	80	100.0%	8.4	0.0	A
	Subtotal	**300**	**295**	**98.3%**	**15.0**	**0.0**	**B**
Total		**1,000**	**1,005**	**100.5%**	**10.7**	**0.0**	**B**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	103	103.0%	41.1	0.0	E
	Through	80	81	101.3%	21.9	0.0	C
	Right Turn	50	49	98.0%	9.8	0.0	A
	Subtotal	**230**	**233**	**101.3%**	**27.8**	**0.0**	**D**
SB	Left Turn	20	19	95.0%	39.1	0.0	E
	Through	100	102	102.0%	32.5	0.0	D
	Right Turn	30	31	103.3%	10.9	0.0	B
	Subtotal	**150**	**152**	**101.3%**	**28.9**	**0.0**	**D**
EB	Left Turn	170	164	96.5%	42.3	0.0	E
	Through	1,050	1,051	100.1%	17.4	0.0	C
	Right Turn	80	81	101.3%	5.1	0.0	A
	Subtotal	**1,300**	**1,296**	**99.7%**	**19.8**	**0.0**	**C**
WB	Left Turn	30	30	100.0%	43.4	0.0	E
	Through	1,080	1,070	99.1%	33.3	0.0	D
	Right Turn	20	22	110.0%	6.9	0.0	A
	Subtotal	**1,130**	**1,122**	**99.3%**	**33.1**	**0.0**	**D**
Total		**2,810**	**2,803**	**99.8%**	**26.3**	**0.0**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	102	92.7%	17.7	0.0	B
	Through	70	72	102.9%	12.9	0.0	B
	Right Turn	40	41	102.5%	6.2	0.0	A
	Subtotal	**220**	**215**	**97.7%**	**13.9**	**0.0**	**B**
SB	Left Turn	130	125	96.2%	18.8	0.0	B
	Through	80	80	100.0%	13.5	0.0	B
	Right Turn	150	147	98.0%	4.8	0.0	A
	Subtotal	**360**	**352**	**97.8%**	**11.7**	**0.0**	**B**
EB	Left Turn	80	79	98.8%	25.4	0.0	C
	Through	330	322	97.6%	12.8	0.0	B
	Right Turn	60	64	106.7%	6.3	0.0	A
	Subtotal	**470**	**465**	**98.9%**	**14.0**	**0.0**	**B**
WB	Left Turn	60	64	106.7%	25.6	0.0	C
	Through	140	143	102.1%	13.5	0.0	B
	Right Turn	80	82	102.5%	5.1	0.0	A
	Subtotal	**280**	**289**	**103.2%**	**13.8**	**0.0**	**B**
Total		**1,330**	**1,321**	**99.3%**	**13.4**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	110	100.0%	41.0	0.0	D
	Through	360	356	98.9%	40.7	0.0	D
	Right Turn	80	83	103.8%	7.7	0.0	A
	Subtotal	**550**	**549**	**99.8%**	**35.8**	**0.0**	**D**
SB	Left Turn	360	364	101.1%	42.5	0.0	D
	Through	510	509	99.8%	36.9	0.0	D
	Right Turn	20	23	115.0%	27.1	0.0	C
	Subtotal	**890**	**896**	**100.7%**	**38.9**	**0.0**	**D**
EB	Left Turn	80	85	106.3%	68.2	0.0	E
	Through	340	329	96.8%	41.0	0.0	D
	Right Turn	120	118	98.3%	32.2	0.0	C
	Subtotal	**540**	**532**	**98.5%**	**43.4**	**0.0**	**D**
WB	Left Turn	100	97	97.0%	52.6	0.0	D
	Through	180	174	96.7%	37.6	0.0	D
	Right Turn	350	354	101.1%	11.2	0.0	B
	Subtotal	**630**	**625**	**99.2%**	**25.0**	**0.0**	**C**
Total		**2,610**	**2,602**	**99.7%**	**35.8**	**0.0**	**D**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	280	278	99.3%	40.3	0.0	D
	Through	120	117	97.5%	22.9	0.0	C
	Right Turn	100	105	105.0%	7.4	0.0	A
	Subtotal	**500**	**500**	**100.0%**	**29.3**	**0.0**	**C**
SB	Left Turn	50	48	96.0%	40.6	0.0	D
	Through	160	160	100.0%	28.9	0.0	C
	Right Turn	110	112	101.8%	9.9	0.0	A
	Subtotal	**320**	**320**	**100.0%**	**24.0**	**0.0**	**C**
EB	Left Turn	70	69	98.6%	35.5	0.0	D
	Through	320	320	100.0%	21.9	0.0	C
	Right Turn	160	158	98.8%	13.4	0.0	B
	Subtotal	**550**	**547**	**99.5%**	**21.2**	**0.0**	**C**
WB	Left Turn	170	169	99.4%	36.0	0.0	D
	Through	290	284	97.9%	16.9	0.0	B
	Right Turn	50	52	104.0%	10.1	0.0	B
	Subtotal	**510**	**505**	**99.0%**	**22.6**	**0.0**	**C**
Total		**1,880**	**1,872**	**99.6%**	**24.2**	**0.0**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	130	126	96.9%	64.6	0.0	E
	Through	860	871	101.3%	28.5	0.0	C
	Right Turn	80	81	101.3%	9.1	0.0	A
	Subtotal	**1,070**	**1,078**	**100.7%**	**31.3**	**0.0**	**C**
SB	Left Turn	110	107	97.3%	53.3	0.0	D
	Through	930	920	98.9%	40.5	0.0	D
	Right Turn	100	100	100.0%	38.4	0.0	D
	Subtotal	**1,140**	**1,127**	**98.9%**	**41.5**	**0.0**	**D**
EB	Left Turn	110	106	96.4%	57.0	0.0	E
	Through	50	47	94.0%	44.3	0.0	D
	Right Turn	70	72	102.9%	15.0	0.0	B
	Subtotal	**230**	**225**	**97.8%**	**40.9**	**0.0**	**D**
WB	Left Turn	220	226	102.7%	46.1	0.0	D
	Through	280	286	102.1%	36.6	0.0	D
	Right Turn	160	158	98.8%	13.4	0.0	B
	Subtotal	**660**	**670**	**101.5%**	**34.3**	**0.0**	**C**
Total		**3,100**	**3,100**	**100.0%**	**36.4**	**0.0**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	26	86.7%	24.2	0.0	C
	Through	600	596	99.3%	9.2	0.0	A
	Right Turn	100	97	97.0%	4.3	0.0	A
	Subtotal	**730**	**719**	**98.5%**	**9.1**	**0.0**	**A**
SB	Left Turn	30	28	93.3%	23.1	0.0	C
	Through	650	645	99.2%	8.1	0.0	A
	Right Turn	30	33	110.0%	3.6	0.0	A
	Subtotal	**710**	**706**	**99.4%**	**8.5**	**0.0**	**A**
EB	Left Turn	20	19	95.0%	23.4	0.0	C
	Through	20	21	105.0%	25.0	0.0	C
	Right Turn	30	33	110.0%	4.7	0.0	A
	Subtotal	**70**	**73**	**104.3%**	**15.4**	**0.0**	**B**
WB	Left Turn	40	42	105.0%	21.9	0.0	C
	Through	20	20	100.0%	22.3	0.0	C
	Right Turn	30	32	106.7%	5.1	0.0	A
	Subtotal	**90**	**94**	**104.4%**	**16.3**	**0.0**	**B**
Total		**1,600**	**1,592**	**99.5%**	**9.5**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	80	100.0%	29.2	0.0	C
	Through	430	424	98.6%	10.4	0.0	B
	Right Turn	460	465	101.1%	10.4	0.0	B
	Subtotal	**970**	**969**	**99.9%**	**12.0**	**0.0**	**B**
SB	Left Turn	90	94	104.4%	29.4	0.0	C
	Through	460	467	101.5%	9.9	0.0	A
	Right Turn	600	602	100.3%	11.8	0.0	B
	Subtotal	**1,150**	**1,163**	**101.1%**	**12.5**	**0.0**	**B**
EB	Left Turn	90	86	95.6%	20.5	0.0	C
	Through						
	Right Turn	60	57	95.0%	25.6	0.0	C
	Subtotal	**150**	**143**	**95.3%**	**22.5**	**0.0**	**C**
WB	Left Turn	220	227	103.2%	23.3	0.0	C
	Through						
	Right Turn	60	62	103.3%	24.1	0.0	C
	Subtotal	**280**	**289**	**103.2%**	**23.5**	**0.0**	**C**
Total		**2,550**	**2,564**	**100.5%**	**14.1**	**0.0**	**B**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	260	261	100.4%	21.9	0.0	C
	Through	440	443	100.7%	12.2	0.0	B
	Right Turn	360	360	100.0%	8.3	0.0	A
	Subtotal	**1,060**	**1,064**	**100.4%**	**13.3**	**0.0**	**B**
SB	Left Turn	120	127	105.8%	27.2	0.0	C
	Through	500	491	98.2%	16.3	0.0	B
	Right Turn	60	58	96.7%	8.6	0.0	A
	Subtotal	**680**	**676**	**99.4%**	**17.7**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,740**	**1,740**	**100.0%**	**15.0**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	Does Not Exist in this Scenario					
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total							

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	18	90.0%	60.8	0.0	E
	Through	360	363	100.8%	33.4	0.0	C
	Right Turn	290	303	104.5%	12.4	0.0	B
	Subtotal	**670**	**684**	**102.1%**	**24.8**	**0.0**	**C**
SB	Left Turn	50	49	98.0%	69.1	0.0	E
	Through	490	494	100.8%	42.2	0.0	D
	Right Turn	680	679	99.9%	13.4	0.0	B
	Subtotal	**1,220**	**1,222**	**100.2%**	**27.3**	**0.0**	**C**
EB	Left Turn	680	681	100.1%	64.3	0.0	E
	Through	390	387	99.2%	29.8	0.0	C
	Right Turn	50	53	106.0%	6.9	0.0	A
	Subtotal	**1,120**	**1,121**	**100.1%**	**49.7**	**0.0**	**D**
WB	Left Turn	270	263	97.4%	44.5	0.0	D
	Through	460	455	98.9%	45.7	0.0	D
	Right Turn						
	Subtotal	**730**	**718**	**98.4%**	**45.2**	**0.0**	**D**
Total		**3,740**	**3,745**	**100.1%**	**37.0**	**0.0**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	168	294	**336**	1	0
	Through	2,428	63	153	242	0	0
	Right Turn	2,428	63	153	242	0	0
SB	Left Turn	300	27	73	101	0	0
	Through	2,373	105	190	228	0	0
	Right Turn	2,373	105	190	228	0	0
EB	Left Turn	530	59	121	148	0	0
	Through	3,295	250	377	428	0	0
	Right Turn	410	57	130	190	0	0
WB	Left Turn	580	175	290	319	0	0
	Through	2,518	257	422	442	0	0
	Right Turn	530	26	63	82	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	41	81	100	0	0
	Through	923	30	61	75	0	0
	Right Turn						
SB	Left Turn	550	29	72	92	0	0
	Through	3,946	37	74	98	0	0
	Right Turn	3,946	33	76	106	0	0
EB	Left Turn	715	49	110	139	0	0
	Through	2,518	192	769	1165	0	0
	Right Turn	355	178	315	**371**	0	0
WB	Left Turn	920	162	239	270	0	0
	Through	2,590	212	348	413	0	0
	Right Turn	750	16	44	57	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	46	109	171	0	0
	Through	464	164	263	314	6	0
	Right Turn	464	155	248	298	0	0
SB	Left Turn	290	100	242	**349**	0	0
	Through	5,159	280	457	511	9	0
	Right Turn	5,159	325	495	549	0	0
EB	Left Turn	250	186	**304**	**308**	4	0
	Through	5,459	199	389	472	3	0
	Right Turn	5,459	199	389	472	3	0
WB	Left Turn	90	25	87	**141**	0	0
	Through	491	**496**	**504**	**506**	65	47
	Right Turn	160	130	**283**	**220**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	101	189	221	0	0
	Right Turn						
SB	Left Turn						
	Through	464	135	259	291	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	99	173	201	0	0
	Through						
	Right Turn	672	99	173	201	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	22	53	72	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	125	255	327	0	0
	Right Turn	491	125	255	327	0	0
WB	Left Turn	530	512	**810**	**590**	0	0
	Through	3,699	3216	**4648**	**3751**	59	57
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	62	131	164	0	0
	Through	737	64	118	144	0	0
	Right Turn	737	27	62	79	0	0
SB	Left Turn	550	29	74	98	0	0
	Through	1,038	85	151	176	0	0
	Right Turn	650	74	140	175	0	0
EB	Left Turn	300	21	53	63	0	0
	Through						
	Right Turn	1,111	95	177	209	0	0
WB	Left Turn	300	73	126	144	0	0
	Through						
	Right Turn	1,079	135	222	268	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	**257**	**337**	**285**	59	0
	Through	3,853	500	982	894	5	0
	Right Turn	200	100	**216**	**259**	0	0
SB	Left Turn	500	136	223	242	0	0
	Through	1,480	187	269	309	0	0
	Right Turn	1,480	141	234	256	0	0
EB	Left Turn	350	**376**	**479**	**410**	63	0
	Through	4,930	740	1456	1285	1	0
	Right Turn	350	81	169	217	0	0
WB	Left Turn	300	**721**	**433**	**360**	5	0
	Through	5,967	2519	4121	3520	56	21
	Right Turn	350	**394**	**497**	**410**	6	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	207	344	410	0	0
	Through	902	21	78	114	0	0
	Right Turn	600	32	81	102	0	0
SB	Left Turn	650	25	65	86	0	0
	Through	952	104	390	375	0	0
	Right Turn	650	284	578	586	4	0
EB	Left Turn	500	26	64	83	0	0
	Through						
	Right Turn	860	49	107	140	0	0
WB	Left Turn	500	102	165	189	0	0
	Through						
	Right Turn	901	43	97	127	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	248	**360**	**350**	7	0
	Through	1,262	189	435	506	0	0
	Right Turn	1,262	158	333	414	0	0
SB	Left Turn	300	56	125	166	0	0
	Through	1,262	425	908	850	1	0
	Right Turn	300	**312**	**427**	**360**	38	0
EB	Left Turn	300	119	197	228	0	0
	Through	1,409	223	318	336	1	0
	Right Turn	300	64	126	168	0	0
WB	Left Turn	300	243	**431**	**360**	1	0
	Through	3,308	969	1662	1369	61	0
	Right Turn	3,308	842	1478	1229	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	107	188	**228**	1	0
	Through	2,570	44	100	141	0	0
	Right Turn	2,570	79	148	182	0	0
SB	Left Turn	150	67	138	**158**	1	0
	Through	2,170	94	188	253	16	0
	Right Turn	75	62	**127**	**135**	2	0
EB	Left Turn	525	43	96	121	0	0
	Through	2,722	98	176	205	0	0
	Right Turn	2,722	104	185	209	0	0
WB	Left Turn	625	91	147	167	0	0
	Through	3,227	131	227	260	0	0
	Right Turn	3,227	150	254	297	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	48	105	120	0	0
	Through	1,181	80	137	170	0	0
	Right Turn	1,181	60	105	140	0	0
SB	Left Turn	315	58	121	148	0	0
	Through	3,988	132	270	346	0	0
	Right Turn	3,988	214	345	394	0	0
EB	Left Turn	410	57	117	155	0	0
	Through	1,731	26	66	94	0	0
	Right Turn	1,731	41	79	98	0	0
WB	Left Turn	1,878	196	292	316	0	0
	Through	1,878	14	44	64	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	450	912	753	7	0
	Through	2,052	112	320	280	0	0
	Right Turn	2,052	91	257	274	0	0
SB	Left Turn	300	38	134	195	0	0
	Through	564	313	**571**	**568**	11	7
	Right Turn	300	257	**416**	**360**	18	0
EB	Left Turn	1,374	223	330	374	2	0
	Through	1,374	104	176	201	0	0
	Right Turn						
WB	Left Turn	300	38	105	140	0	0
	Through	1,274	243	337	371	2	0
	Right Turn	300	19	51	66	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	62	167	**280**	0	0
	Through	1,227	222	376	456	7	0
	Right Turn	1,227	222	376	456	7	0
SB	Left Turn	175	126	**232**	**234**	3	0
	Through	1,669	171	351	447	20	0
	Right Turn	100	89	**177**	**160**	1	0
EB	Left Turn	3,220	96	181	210	0	0
	Through	3,220	174	295	340	0	0
	Right Turn	3,220	174	295	340	0	0
WB	Left Turn	75	53	**125**	**134**	5	0
	Through	3,356	356	688	743	53	0
	Right Turn	150	**156**	**264**	**210**	3	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	75	140	169	0	0
	Through	1,058	100	206	261	0	0
	Right Turn	1,058	15	74	150	0	0
SB	Left Turn	300	19	57	80	0	0
	Through	414	93	159	189	0	0
	Right Turn	414	73	135	169	0	0
EB	Left Turn	300	32	74	91	0	0
	Through	1,163	27	68	92	0	0
	Right Turn	300	63	109	138	0	0
WB	Left Turn	300	25	63	85	0	0
	Through	1,019	37	82	107	0	0
	Right Turn	300	20	48	65	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	76	138	175	0	0
	Through						
	Right Turn	150	64	113	**159**	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	87	141	167	0	0
	Right Turn	300	85	144	178	0	0
WB	Left Turn	400	192	356	385	2	0
	Through	873	61	201	243	0	0
	Right Turn						

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	726	68	122	140	0	0
	Through	726	102	173	210	0	0
	Right Turn	840	50	100	135	0	0
SB	Left Turn	520	19	50	68	0	0
	Through	1,218	104	173	191	0	0
	Right Turn	720	179	313	363	0	0
EB	Left Turn	800	137	211	251	0	0
	Through	1,066	170	257	304	0	0
	Right Turn	1,000	57	115	154	0	0
WB	Left Turn	1,606	74	133	150	0	0
	Through	1,606	182	274	307	0	0
	Right Turn	850	17	49	76	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn	826	49	98	117	0	0
	Through						
	Right Turn	300	59	105	136	0	0
EB	Left Turn	300	65	121	164	0	0
	Through	2,884	39	89	116	0	0
	Right Turn						
WB	Left Turn						
	Through	5,348	94	167	205	0	0
	Right Turn	5,348	94	167	205	0	0

Intersection 18 **Bentley Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	78	150	171	0	0
	Through	1,461	43	94	122	0	0
	Right Turn	300	21	58	82	0	0
SB	Left Turn	150	18	50	66	0	0
	Through	1,179	63	127	151	1	0
	Right Turn	300	14	42	65	0	0
EB	Left Turn	680	116	211	256	0	0
	Through	2,743	153	250	281	0	0
	Right Turn	580	18	50	71	0	0
WB	Left Turn	770	28	73	97	0	0
	Through	2,396	251	400	429	0	0
	Right Turn	720	8	30	46	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	58	112	143	0	0
	Through	1,264	53	110	147	0	0
	Right Turn	1,264	53	110	147	0	0
SB	Left Turn	100	62	**113**	**134**	2	0
	Through	1,626	43	115	162	1	0
	Right Turn	75	50	**92**	**109**	1	0
EB	Left Turn	250	49	98	125	0	0
	Through	1,565	50	101	133	0	0
	Right Turn	1,565	68	126	157	0	0
WB	Left Turn	250	48	102	139	0	0
	Through	2,560	54	101	121	0	0
	Right Turn	300	40	81	103	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	166	250	293	0	0
	Through	1,934	168	253	281	0	0
	Right Turn	300	42	80	90	0	0
SB	Left Turn	5,862	305	448	524	0	0
	Through	5,862	305	448	524	0	0
	Right Turn	5,862	252	383	440	0	0
EB	Left Turn	50	**85**	**134**	**110**	43	0
	Through	2,671	175	333	419	46	0
	Right Turn	200	172	**265**	**260**	5	0
WB	Left Turn	300	86	160	188	0	0
	Through	2,545	118	219	274	0	0
	Right Turn	2,545	95	177	223	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	119	187	**218**	0	0
	Through	1,873	76	159	211	18	0
	Right Turn	50	**54**	**108**	**110**	3	0
SB	Left Turn	100	49	**116**	**149**	2	0
	Through	2,914	112	210	266	11	0
	Right Turn	100	64	**137**	**159**	1	0
EB	Left Turn	250	51	102	134	0	0
	Through	1,994	92	158	190	0	0
	Right Turn	1,994	107	187	218	0	0
WB	Left Turn	200	110	193	**219**	1	0
	Through	2,690	56	115	170	0	0
	Right Turn	2,690	67	131	149	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	118	226	253	0	0
	Through	1,385	203	326	354	1	0
	Right Turn	300	37	122	192	0	0
SB	Left Turn	400	101	218	379	0	0
	Through	2,186	283	444	531	2	0
	Right Turn	2,186	306	470	546	0	0
EB	Left Turn	225	98	182	209	1	0
	Through	5,602	34	85	112	0	0
	Right Turn	225	50	99	126	0	0
WB	Left Turn	225	158	**261**	**270**	4	0
	Through	2,173	106	223	293	0	0
	Right Turn	225	53	110	141	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	20	54	70	0	0
	Through	1,326	80	148	172	0	0
	Right Turn	1,326	58	122	164	0	0
SB	Left Turn	350	26	64	77	0	0
	Through	1,404	85	147	176	0	0
	Right Turn	350	11	40	60	0	0
EB	Left Turn	225	14	43	68	0	0
	Through	1,997	14	41	56	0	0
	Right Turn	225	14	39	52	0	0
WB	Left Turn	175	32	71	102	0	0
	Through	2,609	32	69	87	0	0
	Right Turn	2,609	32	69	87	0	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	56	111	138	0	0
	Through	1,357	52	109	136	0	0
	Right Turn	700	95	169	207	0	0
SB	Left Turn	600	56	116	142	0	0
	Through	1,181	55	108	130	0	0
	Right Turn	600	131	225	276	0	0
EB	Left Turn	500	40	86	107	0	0
	Through						
	Right Turn	500	42	89	123	0	0
WB	Left Turn	500	66	115	138	0	0
	Through						
	Right Turn	350	42	89	116	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **AM Peak Hour**

Intersection 25 **NCC SPUI & Roselle** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	110	198	242	0	0
	Through	671	83	155	180	0	0
	Right Turn	400	62	134	178	0	0
SB	Left Turn	550	67	131	157	0	0
	Through	1,058	70	134	162	0	0
	Right Turn	550	8	33	59	0	0
EB	Left Turn	500	9	32	55	0	0
	Through						
	Right Turn	1,221	74	138	175	0	0
WB	Left Turn	500	62	105	120	0	0
	Through						
	Right Turn	1,160	45	94	133	0	0

Intersection 27 **NCC & Albers Rd** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	21	91	198	0	0
	Through	2,741	207	351	414	10	0
	Right Turn	300	87	199	296	0	0
SB	Left Turn	200	50	164	**293**	0	0
	Through	1,385	253	449	505	18	0
	Right Turn	1,385	0	11	11	0	0
EB	Left Turn	920	274	468	508	0	0
	Through	1,128	101	178	207	0	0
	Right Turn	580	23	58	82	0	0
WB	Left Turn	720	96	162	181	0	0
	Through	3,079	154	241	265	0	0
	Right Turn	580	17	49	67	0	0

Intersection 28 **NCC & Sterns Connection** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	Not Analyzed with SimTraffic					
	Through						
	Right Turn						
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn						
	Through						
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	160	166	103.8%	56.3	0.0	E
	Through	110	110	100.0%	69.1	0.0	E
	Right Turn	190	185	97.4%	51.6	0.0	D
	Subtotal	**460**	**461**	**100.2%**	**57.5**	**0.0**	**E**
SB	Left Turn	150	155	103.3%	55.9	0.0	E
	Through	90	90	100.0%	42.7	0.0	D
	Right Turn	20	20	100.0%	27.9	0.0	C
	Subtotal	**260**	**265**	**101.9%**	**49.3**	**0.0**	**D**
EB	Left Turn	60	60	100.0%	59.3	0.0	E
	Through	1,580	1,598	101.1%	43.6	0.0	D
	Right Turn	270	276	102.2%	15.2	0.0	B
	Subtotal	**1,910**	**1,934**	**101.3%**	**40.0**	**0.0**	**D**
WB	Left Turn	140	136	97.1%	55.5	0.0	E
	Through	1,750	1,721	98.3%	33.3	0.0	C
	Right Turn	80	79	98.8%	13.5	0.0	B
	Subtotal	**1,970**	**1,936**	**98.3%**	**34.1**	**0.0**	**C**
Total		**4,600**	**4,596**	**99.9%**	**39.8**	**0.0**	**D**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	580	555	95.7%	149.9	0.0	F
	Through	220	223	101.4%	39.0	0.0	D
	Right Turn	860	875	101.7%	9.7	0.0	A
	Subtotal	**1,660**	**1,653**	**99.6%**	**60.7**	**0.0**	**E**
SB	Left Turn	160	156	97.5%	170.2	0.0	F
	Through	210	210	100.0%	94.3	0.0	F
	Right Turn	40	40	100.0%	38.1	0.0	D
	Subtotal	**410**	**406**	**99.0%**	**117.9**	**0.0**	**F**
EB	Left Turn	30	31	103.3%	52.5	0.0	D
	Through	1,570	1,579	100.6%	62.7	0.0	E
	Right Turn	320	319	99.7%	32.1	0.0	C
	Subtotal	**1,920**	**1,929**	**100.5%**	**57.5**	**0.0**	**E**
WB	Left Turn	530	524	98.9%	59.0	0.0	E
	Through	1,350	1,337	99.0%	15.8	0.0	B
	Right Turn	60	61	101.7%	4.3	0.0	A
	Subtotal	**1,940**	**1,922**	**99.1%**	**27.2**	**0.0**	**C**
Total		**5,930**	**5,910**	**99.7%**	**52.7**	**0.0**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	81	101.3%	65.8	0.0	E
	Through	610	627	102.8%	44.9	0.0	D
	Right Turn	20	22	110.0%	38.3	0.0	D
	Subtotal	**710**	**730**	**102.8%**	**47.0**	**0.0**	**D**
SB	Left Turn	330	222	67.3%	807.0	0.0	F
	Through	690	672	97.4%	80.9	0.0	F
	Right Turn	300	290	96.7%	74.7	0.0	E
	Subtotal	**1,320**	**1,184**	**89.7%**	**215.5**	**0.0**	**F**
EB	Left Turn	210	191	91.0%	326.1	0.0	F
	Through	440	395	89.8%	220.5	0.0	F
	Right Turn	40	35	87.5%	215.9	0.0	F
	Subtotal	**690**	**621**	**90.0%**	**252.7**	**0.0**	**F**
WB	Left Turn	20	17	85.0%	107.4	0.0	F
	Through	450	437	97.1%	86.2	0.0	F
	Right Turn	100	98	98.0%	46.9	0.0	D
	Subtotal	**570**	**552**	**96.8%**	**79.9**	**0.0**	**E**
Total		**3,290**	**3,087**	**93.8%**	**158.9**	**0.0**	**F**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	690	711	103.0%	10.5	0.0	B
	Right Turn	270	262	97.0%	0.8	0.0	A
	Subtotal	**960**	**973**	**101.4%**	**7.9**	**0.0**	**A**
SB	Left Turn						
	Through	750	724	96.5%	13.7	0.0	B
	Right Turn						
	Subtotal	**750**	**724**	**96.5%**	**13.7**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	110	100	90.9%	20.1	0.0	C
	Through	20	20	100.0%	5.3	0.0	A
	Right Turn						
	Subtotal	**130**	**120**	**92.3%**	**17.6**	**0.0**	**B**
Total		**1,840**	**1,817**	**98.8%**	**10.8**	**0.0**	**B**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	270	263	97.4%	7.7	0.0	A
	Subtotal	**270**	**263**	**97.4%**	**7.7**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	770	626	81.3%	39.8	0.0	D
	Right Turn	20	18	90.0%	24.1	0.0	C
	Subtotal	**790**	**644**	**81.5%**	**39.4**	**0.0**	**D**
WB	Left Turn	110	102	92.7%	55.9	0.0	E
	Through	570	552	96.8%	95.1	0.0	F
	Right Turn						
	Subtotal	**680**	**654**	**96.2%**	**89.0**	**0.0**	**F**
Total		**1,740**	**1,561**	**89.7%**	**54.8**	**0.0**	**D**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	200	204	102.0%	17.1	0.0	B
	Through	660	655	99.2%	14.4	0.0	B
	Right Turn	700	696	99.4%	6.6	0.0	A
	Subtotal	**1,560**	**1,555**	**99.7%**	**11.3**	**0.0**	**B**
SB	Left Turn	170	174	102.4%	23.1	0.0	C
	Through	520	513	98.7%	22.0	0.0	C
	Right Turn	210	210	100.0%	10.9	0.0	B
	Subtotal	**900**	**897**	**99.7%**	**19.6**	**0.0**	**B**
EB	Left Turn	240	244	101.7%	24.9	0.0	C
	Through						
	Right Turn	340	346	101.8%	21.7	0.0	C
	Subtotal	**580**	**590**	**101.7%**	**23.0**	**0.0**	**C**
WB	Left Turn	290	292	100.7%	26.2	0.0	C
	Through						
	Right Turn	200	204	102.0%	21.0	0.0	C
	Subtotal	**490**	**496**	**101.2%**	**24.1**	**0.0**	**C**
Total		**3,530**	**3,538**	**100.2%**	**17.1**	**0.0**	**B**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	400	336	84.0%	463.3	0.0	F
	Through	1,170	1,058	90.4%	268.6	0.0	F
	Right Turn	440	421	95.7%	264.4	0.0	F
	Subtotal	**2,010**	**1,815**	**90.3%**	**303.7**	**0.0**	**F**
SB	Left Turn	730	723	99.0%	100.6	0.0	F
	Through	1,340	1,347	100.5%	56.7	0.0	E
	Right Turn	290	292	100.7%	61.1	0.0	E
	Subtotal	**2,360**	**2,362**	**100.1%**	**70.7**	**0.0**	**E**
EB	Left Turn	380	267	70.3%	648.7	0.0	F
	Through	1,790	1,265	70.7%	680.1	0.0	F
	Right Turn	480	326	67.9%	639.6	0.0	F
	Subtotal	**2,650**	**1,858**	**70.1%**	**668.5**	**0.0**	**F**
WB	Left Turn	530	300	56.6%	1050.0	0.0	F
	Through	1,010	737	73.0%	73.3	0.0	E
	Right Turn	290	207	71.4%	22.6	0.0	C
	Subtotal	**1,830**	**1,244**	**68.0%**	**300.4**	**0.0**	**F**
Total		**8,850**	**7,279**	**82.2%**	**320.6**	**0.0**	**F**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	300	303	101.0%	28.9	0.0	C
	Through	260	257	98.8%	12.8	0.0	B
	Right Turn	420	409	97.4%	14.9	0.0	B
	Subtotal	**980**	**969**	**98.9%**	**18.7**	**0.0**	**B**
SB	Left Turn	50	50	100.0%	34.9	0.0	C
	Through	280	278	99.3%	21.4	0.0	C
	Right Turn	260	250	96.2%	15.1	0.0	B
	Subtotal	**590**	**578**	**98.0%**	**19.8**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,570**	**1,547**	**98.5%**	**19.1**	**0.0**	**B**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	340	340	100.0%	66.1	0.0	E
	Through	500	497	99.4%	40.1	0.0	D
	Right Turn	200	201	100.5%	29.8	0.0	C
	Subtotal	**1,040**	**1,038**	**99.8%**	**46.6**	**0.0**	**D**
SB	Left Turn	140	144	102.9%	56.9	0.0	E
	Through	270	270	100.0%	37.6	0.0	D
	Right Turn	380	381	100.3%	23.0	0.0	C
	Subtotal	**790**	**795**	**100.6%**	**34.1**	**0.0**	**C**
EB	Left Turn	510	500	98.0%	77.2	0.0	E
	Through	1,880	1,876	99.8%	58.8	0.0	E
	Right Turn	470	481	102.3%	13.3	0.0	B
	Subtotal	**2,860**	**2,857**	**99.9%**	**54.4**	**0.0**	**D**
WB	Left Turn	130	128	98.5%	60.9	0.0	E
	Through	1,150	1,155	100.4%	41.1	0.0	D
	Right Turn	150	148	98.7%	23.5	0.0	C
	Subtotal	**1,430**	**1,431**	**100.1%**	**41.1**	**0.0**	**D**
Total		**6,120**	**6,121**	**100.0%**	**47.3**	**0.0**	**D**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	190	184	96.8%	55.3	0.0	E
	Through	170	169	99.4%	33.5	0.0	C
	Right Turn	300	293	97.7%	39.2	0.0	D
	Subtotal	**660**	**646**	**97.9%**	**42.3**	**0.0**	**D**
SB	Left Turn	60	60	100.0%	64.3	0.0	E
	Through	100	96	96.0%	40.1	0.0	D
	Right Turn	50	51	102.0%	7.6	0.0	A
	Subtotal	**210**	**207**	**98.6%**	**39.1**	**0.0**	**D**
EB	Left Turn	110	111	100.9%	50.2	0.0	D
	Through	700	706	100.9%	32.8	0.0	C
	Right Turn	170	172	101.2%	28.4	0.0	C
	Subtotal	**980**	**989**	**100.9%**	**34.0**	**0.0**	**C**
WB	Left Turn	420	436	103.8%	56.8	0.0	E
	Through	430	439	102.1%	22.0	0.0	C
	Right Turn	50	50	100.0%	16.7	0.0	B
	Subtotal	**900**	**925**	**102.8%**	**38.1**	**0.0**	**D**
Total		**2,750**	**2,767**	**100.6%**	**37.7**	**0.0**	**D**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	190	194	102.1%	56.1	0.0	E
	Through	680	690	101.5%	25.1	0.0	C
	Right Turn	610	609	99.8%	14.2	0.0	B
	Subtotal	**1,480**	**1,493**	**100.9%**	**24.7**	**0.0**	**C**
SB	Left Turn	80	80	100.0%	53.8	0.0	D
	Through	680	677	99.6%	41.4	0.0	D
	Right Turn	50	53	106.0%	41.0	0.0	D
	Subtotal	**810**	**810**	**100.0%**	**42.6**	**0.0**	**D**
EB	Left Turn	90	90	100.0%	32.6	0.0	C
	Through	20	20	100.0%	42.1	0.0	D
	Right Turn	140	144	102.9%	12.7	0.0	B
	Subtotal	**250**	**254**	**101.6%**	**22.1**	**0.0**	**C**
WB	Left Turn	440	446	101.4%	37.8	0.0	D
	Through	20	22	110.0%	44.4	0.0	D
	Right Turn	60	63	105.0%	3.7	0.0	A
	Subtotal	**520**	**531**	**102.1%**	**34.0**	**0.0**	**C**
Total		**3,060**	**3,088**	**100.9%**	**30.8**	**0.0**	**C**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	610	614	100.7%	47.3	0.0	D
	Through	720	717	99.6%	21.2	0.0	C
	Right Turn	100	97	97.0%	15.1	0.0	B
	Subtotal	**1,430**	**1,428**	**99.9%**	**32.0**	**0.0**	**C**
SB	Left Turn	40	39	97.5%	58.0	0.0	E
	Through	660	652	98.8%	43.6	0.0	D
	Right Turn	300	299	99.7%	14.6	0.0	B
	Subtotal	**1,000**	**990**	**99.0%**	**35.4**	**0.0**	**D**
EB	Left Turn	430	421	97.9%	60.2	0.0	E
	Through	780	779	99.9%	46.0	0.0	D
	Right Turn	1,030	1,029	99.9%	11.2	0.0	B
	Subtotal	**2,240**	**2,229**	**99.5%**	**32.6**	**0.0**	**C**
WB	Left Turn	60	62	103.3%	67.3	0.0	E
	Through	550	556	101.1%	53.6	0.0	D
	Right Turn	40	38	95.0%	9.4	0.0	A
	Subtotal	**650**	**656**	**100.9%**	**52.3**	**0.0**	**D**
Total		**5,320**	**5,303**	**99.7%**	**35.4**	**0.0**	**D**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	68	97.1%	99.6	0.0	F
	Through	310	308	99.4%	126.7	0.0	F
	Right Turn	50	48	96.0%	113.5	0.0	F
	Subtotal	**430**	**424**	**98.6%**	**120.9**	**0.0**	**F**
SB	Left Turn	280	266	95.0%	82.3	0.0	F
	Through	200	193	96.5%	78.0	0.0	E
	Right Turn	180	181	100.6%	38.9	0.0	D
	Subtotal	**660**	**640**	**97.0%**	**68.7**	**0.0**	**E**
EB	Left Turn	260	253	97.3%	69.2	0.0	E
	Through	490	493	100.6%	52.8	0.0	D
	Right Turn	40	42	105.0%	42.5	0.0	D
	Subtotal	**790**	**788**	**99.7%**	**57.5**	**0.0**	**E**
WB	Left Turn	50	49	98.0%	109.3	0.0	F
	Through	330	327	99.1%	67.0	0.0	E
	Right Turn	150	157	104.7%	35.3	0.0	D
	Subtotal	**530**	**533**	**100.6%**	**61.6**	**0.0**	**E**
Total		**2,410**	**2,385**	**99.0%**	**72.7**	**0.0**	**E**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	220	220	100.0%	36.3	0.0	D
	Through	510	497	97.5%	24.2	0.0	C
	Right Turn	80	85	106.3%	6.8	0.0	A
	Subtotal	**810**	**802**	**99.0%**	**25.7**	**0.0**	**C**
SB	Left Turn	40	40	100.0%	37.6	0.0	D
	Through	410	412	100.5%	22.8	0.0	C
	Right Turn	20	20	100.0%	12.0	0.0	B
	Subtotal	**470**	**472**	**100.4%**	**23.6**	**0.0**	**C**
EB	Left Turn	20	18	90.0%	39.7	0.0	D
	Through	190	192	101.1%	30.6	0.0	C
	Right Turn	240	247	102.9%	8.5	0.0	A
	Subtotal	**450**	**457**	**101.6%**	**19.0**	**0.0**	**B**
WB	Left Turn	80	80	100.0%	37.0	0.0	D
	Through	60	61	101.7%	18.3	0.0	B
	Right Turn	20	24	120.0%	2.8	0.0	A
	Subtotal	**160**	**165**	**103.1%**	**25.1**	**0.0**	**C**
Total		**1,890**	**1,896**	**100.3%**	**23.5**	**0.0**	**C**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	101	101.0%	25.4	0.0	C
	Through						
	Right Turn	280	282	100.7%	8.3	0.0	A
	Subtotal	**380**	**383**	**100.8%**	**12.8**	**0.0**	**B**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	610	606	99.3%	19.8	0.0	B
	Right Turn	270	271	100.4%	15.3	0.0	B
	Subtotal	**880**	**877**	**99.7%**	**18.4**	**0.0**	**B**
WB	Left Turn	310	309	99.7%	26.9	0.0	C
	Through	410	413	100.7%	4.3	0.0	A
	Right Turn						
	Subtotal	**720**	**722**	**100.3%**	**14.0**	**0.0**	**B**
Total		**1,980**	**1,982**	**100.1%**	**15.7**	**0.0**	**B**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	380	388	102.1%	62.8	0.0	E
	Through	280	284	101.4%	36.1	0.0	D
	Right Turn	250	253	101.2%	9.1	0.0	A
	Subtotal	**910**	**925**	**101.6%**	**39.9**	**0.0**	**D**
SB	Left Turn	70	72	102.9%	56.4	0.0	E
	Through	390	387	99.2%	50.2	0.0	D
	Right Turn	440	437	99.3%	23.6	0.0	C
	Subtotal	**900**	**896**	**99.6%**	**37.7**	**0.0**	**D**
EB	Left Turn	470	456	97.0%	46.5	0.0	D
	Through	1,140	1,145	100.4%	32.0	0.0	C
	Right Turn	230	231	100.4%	6.8	0.0	A
	Subtotal	**1,840**	**1,832**	**99.6%**	**32.4**	**0.0**	**C**
WB	Left Turn	470	469	99.8%	60.4	0.0	E
	Through	1,020	1,040	102.0%	34.7	0.0	C
	Right Turn	50	52	104.0%	7.5	0.0	A
	Subtotal	**1,540**	**1,561**	**101.4%**	**41.5**	**0.0**	**D**
Total		**5,190**	**5,214**	**100.5%**	**37.4**	**0.0**	**D**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	140	130	92.9%	23.4	0.0	C
	Through						
	Right Turn	260	256	98.5%	9.5	0.0	A
	Subtotal	**400**	**386**	**96.5%**	**14.2**	**0.0**	**B**
EB	Left Turn	360	351	97.5%	23.8	0.0	C
	Through	250	248	99.2%	7.9	0.0	A
	Right Turn						
	Subtotal	**610**	**599**	**98.2%**	**17.2**	**0.0**	**B**
WB	Left Turn						
	Through	290	290	100.0%	33.3	0.0	C
	Right Turn	100	102	102.0%	21.9	0.0	C
	Subtotal	**390**	**392**	**100.5%**	**30.3**	**0.0**	**C**
Total		**1,400**	**1,377**	**98.4%**	**20.1**	**0.0**	**C**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	102	102.0%	46.0	0.0	E
	Through	110	112	101.8%	23.4	0.0	C
	Right Turn	70	66	94.3%	11.6	0.0	B
	Subtotal	**280**	**280**	**100.0%**	**28.9**	**0.0**	**D**
SB	Left Turn	20	21	105.0%	44.9	0.0	E
	Through	150	149	99.3%	33.2	0.0	D
	Right Turn	340	342	100.6%	22.3	0.0	C
	Subtotal	**510**	**512**	**100.4%**	**26.4**	**0.0**	**D**
EB	Left Turn	90	91	101.1%	48.4	0.0	E
	Through	1,210	1,198	99.0%	36.3	0.0	E
	Right Turn	160	162	101.3%	9.9	0.0	A
	Subtotal	**1,460**	**1,451**	**99.4%**	**34.1**	**0.0**	**D**
WB	Left Turn	90	88	97.8%	50.2	0.0	F
	Through	1,100	1,109	100.8%	32.4	0.0	D
	Right Turn	20	21	105.0%	6.6	0.0	A
	Subtotal	**1,210**	**1,218**	**100.7%**	**33.2**	**0.0**	**D**
Total		**3,460**	**3,461**	**100.0%**	**32.2**	**0.0**	**D**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	108	98.2%	20.4	0.0	C
	Through	60	56	93.3%	14.5	0.0	B
	Right Turn	80	78	97.5%	7.5	0.0	A
	Subtotal	**250**	**242**	**96.8%**	**14.9**	**0.0**	**B**
SB	Left Turn	100	101	101.0%	21.2	0.0	C
	Through	60	59	98.3%	16.5	0.0	B
	Right Turn	110	114	103.6%	5.6	0.0	A
	Subtotal	**270**	**274**	**101.5%**	**13.7**	**0.0**	**B**
EB	Left Turn	100	103	103.0%	27.2	0.0	C
	Through	490	489	99.8%	11.4	0.0	B
	Right Turn	50	50	100.0%	7.0	0.0	A
	Subtotal	**640**	**642**	**100.3%**	**13.6**	**0.0**	**B**
WB	Left Turn	40	40	100.0%	29.9	0.0	C
	Through	510	519	101.8%	17.6	0.0	B
	Right Turn	80	82	102.5%	10.4	0.0	B
	Subtotal	**630**	**641**	**101.7%**	**17.4**	**0.0**	**B**
Total		**1,790**	**1,799**	**100.5%**	**15.2**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	140	138	98.6%	50.3	0.0	D
	Through	600	604	100.7%	52.1	0.0	D
	Right Turn	60	64	106.7%	12.9	0.0	B
	Subtotal	**800**	**806**	**100.8%**	**48.7**	**0.0**	**D**
SB	Left Turn	320	323	100.9%	68.9	0.0	E
	Through	470	474	100.9%	64.2	0.0	E
	Right Turn	80	82	102.5%	56.9	0.0	E
	Subtotal	**870**	**879**	**101.0%**	**65.2**	**0.0**	**E**
EB	Left Turn	70	69	98.6%	148.1	0.0	F
	Through	380	372	97.9%	48.7	0.0	D
	Right Turn	100	99	99.0%	41.0	0.0	D
	Subtotal	**550**	**540**	**98.2%**	**60.0**	**0.0**	**E**
WB	Left Turn	20	20	100.0%	63.4	0.0	E
	Through	340	332	97.6%	52.0	0.0	D
	Right Turn	410	408	99.5%	20.5	0.0	C
	Subtotal	**770**	**760**	**98.7%**	**35.4**	**0.0**	**D**
Total		**2,990**	**2,985**	**99.8%**	**52.2**	**0.0**	**D**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	150	146	97.3%	36.1	0.0	D
	Through	190	190	100.0%	26.5	0.0	C
	Right Turn	200	211	105.5%	9.3	0.0	A
	Subtotal	**540**	**547**	**101.3%**	**22.4**	**0.0**	**C**
SB	Left Turn	90	93	103.3%	39.8	0.0	D
	Through	140	143	102.1%	29.2	0.0	C
	Right Turn	100	99	99.0%	9.3	0.0	A
	Subtotal	**330**	**335**	**101.5%**	**26.3**	**0.0**	**C**
EB	Left Turn	100	96	96.0%	35.6	0.0	D
	Through	350	339	96.9%	22.5	0.0	C
	Right Turn	190	191	100.5%	14.2	0.0	B
	Subtotal	**640**	**626**	**97.8%**	**22.0**	**0.0**	**C**
WB	Left Turn	130	135	103.8%	37.3	0.0	D
	Through	460	456	99.1%	21.6	0.0	C
	Right Turn	90	90	100.0%	15.1	0.0	B
	Subtotal	**680**	**681**	**100.1%**	**23.9**	**0.0**	**C**
Total		**2,190**	**2,189**	**100.0%**	**23.3**	**0.0**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	60	57	95.0%	49.1	0.0	D
	Through	800	788	98.5%	40.9	0.0	D
	Right Turn	200	205	102.5%	13.4	0.0	B
	Subtotal	**1,060**	**1,050**	**99.1%**	**36.0**	**0.0**	**D**
SB	Left Turn	210	218	103.8%	51.5	0.0	D
	Through	830	839	101.1%	38.4	0.0	D
	Right Turn	120	122	101.7%	35.0	0.0	C
	Subtotal	**1,160**	**1,179**	**101.6%**	**40.5**	**0.0**	**D**
EB	Left Turn	130	126	96.9%	48.0	0.0	D
	Through	400	396	99.0%	39.9	0.0	D
	Right Turn	120	122	101.7%	29.3	0.0	C
	Subtotal	**650**	**644**	**99.1%**	**39.5**	**0.0**	**D**
WB	Left Turn	90	89	98.9%	50.9	0.0	D
	Through	100	102	102.0%	33.6	0.0	C
	Right Turn	140	140	100.0%	9.9	0.0	A
	Subtotal	**330**	**331**	**100.3%**	**28.2**	**0.0**	**C**
Total		**3,200**	**3,204**	**100.1%**	**37.5**	**0.0**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	30	100.0%	26.2	0.0	C
	Through	610	606	99.3%	10.9	0.0	B
	Right Turn	70	73	104.3%	4.9	0.0	A
	Subtotal	**710**	**709**	**99.9%**	**10.9**	**0.0**	**B**
SB	Left Turn	50	51	102.0%	26.1	0.0	C
	Through	480	472	98.3%	8.9	0.0	A
	Right Turn	20	22	110.0%	3.8	0.0	A
	Subtotal	**550**	**545**	**99.1%**	**10.3**	**0.0**	**B**
EB	Left Turn	20	19	95.0%	23.7	0.0	C
	Through	20	20	100.0%	28.6	0.0	C
	Right Turn	50	54	108.0%	4.2	0.0	A
	Subtotal	**90**	**93**	**103.3%**	**13.4**	**0.0**	**B**
WB	Left Turn	80	81	101.3%	23.2	0.0	C
	Through	20	22	110.0%	23.9	0.0	C
	Right Turn	30	31	103.3%	6.4	0.0	A
	Subtotal	**130**	**134**	**103.1%**	**19.4**	**0.0**	**B**
Total		**1,480**	**1,481**	**100.1%**	**11.6**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	18	90.0%	26.4	0.0	C
	Through	520	514	98.8%	20.0	0.0	B
	Right Turn	360	352	97.8%	11.6	0.0	B
	Subtotal	**900**	**884**	**98.2%**	**16.8**	**0.0**	**B**
SB	Left Turn	130	131	100.8%	28.9	0.0	C
	Through	610	612	100.3%	20.3	0.0	C
	Right Turn	520	518	99.6%	13.2	0.0	B
	Subtotal	**1,260**	**1,261**	**100.1%**	**18.3**	**0.0**	**B**
EB	Left Turn	770	775	100.6%	24.4	0.0	C
	Through						
	Right Turn	190	194	102.1%	30.8	0.0	C
	Subtotal	**960**	**969**	**100.9%**	**25.7**	**0.0**	**C**
WB	Left Turn	300	304	101.3%	16.9	0.0	B
	Through						
	Right Turn	190	204	107.4%	29.2	0.0	C
	Subtotal	**490**	**508**	**103.7%**	**21.8**	**0.0**	**C**
Total		**3,610**	**3,622**	**100.3%**	**20.4**	**0.0**	**C**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	170	170	100.0%	18.7	0.0	B
	Through	590	586	99.3%	12.7	0.0	B
	Right Turn	270	275	101.9%	7.3	0.0	A
	Subtotal	**1,030**	**1,031**	**100.1%**	**12.2**	**0.0**	**B**
SB	Left Turn	100	99	99.0%	23.7	0.0	C
	Through	580	588	101.4%	17.5	0.0	B
	Right Turn	50	50	100.0%	7.4	0.0	A
	Subtotal	**730**	**737**	**101.0%**	**17.6**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,760**	**1,768**	**100.5%**	**14.5**	**0.0**	**B**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	Does Not Exist in this Scenario					
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total							

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	18	90.0%	46.7	0.0	D
	Through	340	336	98.8%	31.5	0.0	C
	Right Turn	310	317	102.3%	14.3	0.0	B
	Subtotal	**670**	**671**	**100.1%**	**23.8**	**0.0**	**C**
SB	Left Turn	30	30	100.0%	54.7	0.0	D
	Through	340	351	103.2%	34.0	0.0	C
	Right Turn	670	672	100.3%	13.6	0.0	B
	Subtotal	**1,040**	**1,053**	**101.3%**	**21.6**	**0.0**	**C**
EB	Left Turn	640	633	98.9%	37.1	0.0	D
	Through	640	642	100.3%	26.3	0.0	C
	Right Turn	20	20	100.0%	4.9	0.0	A
	Subtotal	**1,300**	**1,295**	**99.6%**	**31.2**	**0.0**	**C**
WB	Left Turn	280	278	99.3%	35.4	0.0	D
	Through	600	614	102.3%	41.4	0.0	D
	Right Turn						
	Subtotal	**880**	**892**	**101.4%**	**39.5**	**0.0**	**D**
Total		**3,890**	**3,911**	**100.5%**	**29.3**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	161	315	**371**	0	0
	Through	2,428	230	464	557	7	0
	Right Turn	2,428	230	464	557	7	0
SB	Left Turn	300	130	228	263	0	0
	Through	2,373	79	165	231	0	0
	Right Turn	2,373	79	165	231	0	0
EB	Left Turn	530	62	154	178	0	0
	Through	3,295	319	477	530	3	0
	Right Turn	410	103	276	351	0	0
WB	Left Turn	580	119	207	239	0	0
	Through	2,518	279	401	437	0	0
	Right Turn	530	30	68	86	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	297	536	473	0	0
	Through	923	64	110	138	0	0
	Right Turn	850	8	135	152	0	0
SB	Left Turn	550	261	525	451	6	0
	Through	3,946	128	381	363	0	0
	Right Turn	3,946	63	150	183	0	0
EB	Left Turn	715	28	67	88	0	0
	Through	2,518	395	920	1322	16	0
	Right Turn	355	160	**418**	**443**	0	0
WB	Left Turn	920	178	254	273	0	0
	Through	2,590	140	250	302	0	0
	Right Turn	750	16	44	65	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	106	**227**	**244**	1	0
	Through	464	235	361	412	20	0
	Right Turn	464	224	343	362	0	0
SB	Left Turn	290	**349**	**359**	**350**	90	0
	Through	5,159	2290	3957	3868	6	0
	Right Turn	5,159	2083	4039	3834	0	0
EB	Left Turn	250	**293**	**368**	**310**	62	0
	Through	5,459	1445	2991	2494	21	0
	Right Turn	5,459	1445	2991	2494	21	0
WB	Left Turn	90	31	**100**	**140**	1	0
	Through	491	453	**590**	**505**	66	33
	Right Turn	160	117	**270**	**220**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	130	234	292	0	0
	Right Turn						
SB	Left Turn						
	Through	464	131	263	288	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	54	104	130	0	0
	Through						
	Right Turn	672	54	104	130	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	60	118	151	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	366	**557**	**503**	0	2
	Right Turn	491	366	**557**	**503**	0	2
WB	Left Turn	530	185	**572**	403	0	0
	Through	3,699	557	1520	1058	26	0
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	87	161	191	0	0
	Through	737	78	131	150	0	0
	Right Turn	737	73	144	215	0	0
SB	Left Turn	550	87	156	177	0	0
	Through	1,038	94	156	180	0	0
	Right Turn	650	63	118	151	0	0
EB	Left Turn	300	76	135	174	0	0
	Through						
	Right Turn	1,111	158	259	293	0	0
WB	Left Turn	300	0	0	0	0	0
	Through						
	Right Turn	1,079	0	0	0	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	**282**	**312**	**285**	59	0
	Through	3,853	1880	3267	2906	56	1
	Right Turn	200	**258**	**278**	**260**	43	0
SB	Left Turn	500	451	**661**	**619**	13	0
	Through	1,480	474	846	953	2	0
	Right Turn	1,480	456	655	704	0	0
EB	Left Turn	350	**382**	**521**	**410**	0	0
	Through	4,930	4331	**5962**	**4982**	70	59
	Right Turn	350	**397**	**488**	**410**	0	0
WB	Left Turn	300	**756**	**361**	**360**	90	0
	Through	5,969	3123	4868	3522	0	65
	Right Turn	350	60	173	234	0	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	141	235	285	0	0
	Through	892	32	81	117	0	0
	Right Turn	600	107	209	251	0	0
SB	Left Turn	650	35	79	100	0	0
	Through	952	60	106	129	0	0
	Right Turn	650	78	148	184	0	0
EB	Left Turn	500	158	244	278	0	0
	Through						
	Right Turn	860	137	230	263	0	0
WB	Left Turn	500	77	128	138	0	0
	Through						
	Right Turn	901	22	55	71	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	189	285	**314**	2	0
	Through	1,262	207	340	407	1	0
	Right Turn	1,262	206	315	371	0	0
SB	Left Turn	300	121	207	250	0	0
	Through	1,262	123	284	460	0	0
	Right Turn	300	210	**358**	**358**	4	0
EB	Left Turn	300	**316**	**427**	**360**	4	0
	Through	1,409	688	1051	1083	38	0
	Right Turn	300	158	**362**	**360**	0	0
WB	Left Turn	300	116	219	281	0	0
	Through	3,308	261	362	423	3	0
	Right Turn	3,308	219	327	369	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	147	**239**	**245**	4	0
	Through	2,570	122	249	343	1	0
	Right Turn	2,570	197	307	350	0	0
SB	Left Turn	150	61	120	148	1	0
	Through	2,170	76	147	187	15	0
	Right Turn	75	35	**89**	**127**	0	0
EB	Left Turn	525	93	161	195	0	0
	Through	2,722	218	339	363	0	0
	Right Turn	2,722	230	351	358	0	0
WB	Left Turn	625	170	271	293	0	0
	Through	3,227	89	155	179	0	0
	Right Turn	3,227	108	180	208	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	159	269	295	1	0
	Through	1,181	168	268	324	0	0
	Right Turn	1,181	141	237	278	0	0
SB	Left Turn	315	79	188	288	0	0
	Through	3,988	221	411	462	3	0
	Right Turn	3,988	274	439	490	0	0
EB	Left Turn	410	61	126	160	0	0
	Through	1,731	19	55	71	0	0
	Right Turn	1,731	58	105	128	0	0
WB	Left Turn	1,878	192	286	319	0	0
	Through	1,878	15	45	62	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	237	330	364	0	0
	Through	2,052	169	260	285	0	0
	Right Turn	2,052	164	258	284	0	0
SB	Left Turn	300	44	123	206	0	0
	Through	580	260	380	446	4	0
	Right Turn	300	150	277	**343**	1	0
EB	Left Turn	1,374	206	311	354	1	0
	Through	1,374	262	375	423	1	0
	Right Turn	300	13	121	**320**	0	0
WB	Left Turn	300	62	122	145	0	0
	Through	1,274	203	276	304	0	0
	Right Turn	300	21	51	62	0	0

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	135	**338**	**310**	0	0
	Through	1,227	579	1100	921	49	2
	Right Turn	1,227	579	1100	921	49	2
SB	Left Turn	175	**207**	**280**	**235**	30	0
	Through	1,669	486	1095	1138	35	0
	Right Turn	100	**102**	**191**	**160**	1	0
EB	Left Turn	3,220	222	360	395	0	0
	Through	3,220	366	617	660	0	0
	Right Turn	3,220	366	617	660	0	0
WB	Left Turn	75	68	**144**	**134**	16	0
	Through	3,356	353	653	664	59	0
	Right Turn	150	135	**260**	**210**	1	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	133	242	**326**	0	0
	Through	1,058	179	313	397	1	0
	Right Turn	1,058	53	182	284	0	0
SB	Left Turn	300	34	80	104	0	0
	Through	414	108	170	191	0	0
	Right Turn	414	88	157	175	0	0
EB	Left Turn	300	17	51	78	0	0
	Through	1,163	117	220	272	0	0
	Right Turn	300	78	147	193	0	0
WB	Left Turn	300	58	112	138	0	0
	Through	1,019	27	67	97	0	0
	Right Turn	300	11	33	50	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	62	117	144	0	0
	Through						
	Right Turn	150	73	126	**152**	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	150	225	270	0	0
	Right Turn	300	159	244	**301**	0	0
WB	Left Turn	400	154	245	282	0	0
	Through	873	37	85	116	0	0
	Right Turn						

Intersection 16 **Claus Road/Claribel Road** **Signal**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **PM Peak Hour**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	726	138	205	224	0	0
	Through	726	101	169	187	0	0
	Right Turn	840	74	140	186	0	0
SB	Left Turn	520	39	81	97	0	0
	Through	1,218	147	230	264	0	0
	Right Turn	720	174	304	368	0	0
EB	Left Turn	800	180	269	295	0	0
	Through	1,066	248	343	363	0	0
	Right Turn	1,000	60	121	163	0	0
WB	Left Turn	1,606	156	236	263	0	0
	Through	1,606	202	291	339	0	0
	Right Turn	850	13	41	59	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn	826	72	130	157	0	0
	Through						
	Right Turn	300	76	134	166	0	0
EB	Left Turn	300	152	242	258	0	0
	Through	2,884	37	85	96	0	0
	Right Turn						
WB	Left Turn						
	Through	5,348	179	317	384	0	0
	Right Turn	5,348	179	317	384	0	0

Intersection 18 **Bentley Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	79	150	180	0	0
	Through	1,462	56	116	144	0	0
	Right Turn	300	26	66	94	0	0
SB	Left Turn	150	19	50	63	0	0
	Through	1,179	88	165	209	2	0
	Right Turn	300	140	246	290	0	0
EB	Left Turn	680	73	149	183	0	0
	Through	2,767	276	464	528	0	0
	Right Turn	580	41	120	177	0	0
WB	Left Turn	770	73	146	176	0	0
	Through	2,373	245	381	416	0	0
	Right Turn	720	7	28	45	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	57	105	129	0	0
	Through	1,264	52	101	126	0	0
	Right Turn	1,264	52	101	126	0	0
SB	Left Turn	100	48	92	**114**	1	0
	Through	1,626	30	66	79	1	0
	Right Turn	75	39	71	**87**	0	0
EB	Left Turn	250	56	110	147	0	0
	Through	1,565	65	127	157	0	0
	Right Turn	1,565	79	148	176	0	0
WB	Left Turn	250	30	65	87	0	0
	Through	2,560	129	202	231	0	0
	Right Turn	300	91	162	175	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	305	472	472	0	0
	Through	1,934	314	493	514	12	0
	Right Turn	300	67	235	**359**	0	0
SB	Left Turn	5,862	410	613	645	0	0
	Through	5,862	410	613	645	0	0
	Right Turn	5,862	377	581	620	0	0
EB	Left Turn	50	**83**	**131**	**110**	61	0
	Through	2,671	288	665	680	37	0
	Right Turn	200	190	**290**	**259**	7	0
WB	Left Turn	300	23	82	126	0	0
	Through	2,545	271	440	486	9	0
	Right Turn	2,545	159	275	317	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	71	130	192	0	0
	Through	1,873	115	223	283	30	0
	Right Turn	50	**80**	**132**	**110**	7	0
SB	Left Turn	100	68	**125**	**141**	4	0
	Through	2,914	88	166	209	7	0
	Right Turn	100	47	**104**	**145**	0	0
EB	Left Turn	250	58	111	132	0	0
	Through	1,994	98	173	213	0	0
	Right Turn	1,994	112	201	239	0	0
WB	Left Turn	200	82	149	196	0	0
	Through	2,690	100	177	216	0	0
	Right Turn	2,690	119	200	231	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	52	106	129	0	0
	Through	1,385	226	347	398	2	0
	Right Turn	300	84	205	297	0	0
SB	Left Turn	400	170	304	381	0	0
	Through	2,186	239	411	448	1	0
	Right Turn	2,186	275	458	491	0	0
EB	Left Turn	225	100	183	**228**	0	0
	Through	5,602	152	245	312	1	0
	Right Turn	225	150	**238**	**274**	1	0
WB	Left Turn	225	71	135	153	0	0
	Through	2,173	41	86	111	0	0
	Right Turn	225	40	85	118	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	24	62	78	0	0
	Through	1,326	92	165	188	0	0
	Right Turn	1,326	66	138	172	0	0
SB	Left Turn	350	40	82	95	0	0
	Through	1,404	76	136	154	0	0
	Right Turn	350	9	35	50	0	0
EB	Left Turn	225	13	38	51	0	0
	Through	1,997	15	46	67	0	0
	Right Turn	225	19	45	60	0	0
WB	Left Turn	175	51	97	123	0	0
	Through	2,609	31	73	96	0	0
	Right Turn	2,609	31	73	96	0	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	15	46	60	0	0
	Through	1,357	85	149	169	0	0
	Right Turn	700	90	154	186	0	0
SB	Left Turn	600	73	146	184	0	0
	Through	1,181	106	171	201	0	0
	Right Turn	600	121	194	223	0	0
EB	Left Turn	500	187	272	304	0	0
	Through						
	Right Turn	500	117	201	245	0	0
WB	Left Turn	500	68	119	145	0	0
	Through						
	Right Turn	350	121	194	223	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2A**
Queue Length | **PM Peak Hour**

Intersection 25 **NCC SPUI & Roselle** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	67	134	157	0	0
	Through	671	94	186	231	0	0
	Right Turn	400	39	97	136	0	0
SB	Left Turn	550	49	105	140	0	0
	Through	1,058	84	160	203	0	0
	Right Turn	550	6	29	46	0	0
EB	Left Turn	500	24	62	82	0	0
	Through						
	Right Turn	1,221	151	247	293	0	0
WB	Left Turn	500	41	77	96	0	0
	Through						
	Right Turn	1,160	83	147	181	0	0

Intersection 27 **NCC & Albers Rd** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	15	58	90	0	0
	Through	2,741	173	305	365	6	0
	Right Turn	300	96	197	254	0	0
SB	Left Turn	200	20	84	153	0	0
	Through	1,385	147	288	333	5	0
	Right Turn						
EB	Left Turn	920	172	274	312	0	0
	Through	1,128	140	237	267	0	0
	Right Turn	580	9	33	48	0	0
WB	Left Turn	720	83	139	167	0	0
	Through	2,928	159	272	299	0	0
	Right Turn	580	39	82	99	0	0

Intersection 28 **NCC & Sterns Connection** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	Not Analyzed with SimTraffic					
	Through						
	Right Turn						
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn						
	Through						
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	220	212	96.4%	49.9	0.0	D
	Through	80	81	101.3%	30.1	0.0	C
	Right Turn	40	39	97.5%	16.3	0.0	B
	Subtotal	**340**	**332**	**97.6%**	**41.1**	**0.0**	**D**
SB	Left Turn	30	28	93.3%	41.4	0.0	D
	Through	90	90	100.0%	44.8	0.0	D
	Right Turn	70	70	100.0%	25.5	0.0	C
	Subtotal	**190**	**188**	**98.9%**	**37.1**	**0.0**	**D**
EB	Left Turn	70	68	97.1%	54.4	0.0	D
	Through	1,150	1,172	101.9%	36.7	0.0	D
	Right Turn	140	139	99.3%	11.9	0.0	B
	Subtotal	**1,360**	**1,379**	**101.4%**	**35.1**	**0.0**	**D**
WB	Left Turn	220	221	100.5%	56.2	0.0	E
	Through	1,670	1,681	100.7%	35.1	0.0	D
	Right Turn	70	69	98.6%	16.7	0.0	B
	Subtotal	**1,960**	**1,971**	**100.6%**	**36.8**	**0.0**	**D**
Total		**3,850**	**3,870**	**100.5%**	**36.6**	**0.0**	**D**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	160	156	97.5%	31.2	0.0	C
	Through	90	92	102.2%	25.9	0.0	C
	Right Turn	170	174	102.4%	2.6	0.0	A
	Subtotal	**420**	**422**	**100.5%**	**18.3**	**0.0**	**B**
SB	Left Turn	40	40	100.0%	38.8	0.0	D
	Through	110	107	97.3%	31.3	0.0	C
	Right Turn	60	66	110.0%	17.5	0.0	B
	Subtotal	**210**	**213**	**101.4%**	**28.4**	**0.0**	**C**
EB	Left Turn	50	48	96.0%	60.5	0.0	E
	Through	710	724	102.0%	33.1	0.0	C
	Right Turn	460	462	100.4%	30.9	0.0	C
	Subtotal	**1,220**	**1,234**	**101.1%**	**33.3**	**0.0**	**C**
WB	Left Turn	610	612	100.3%	39.0	0.0	D
	Through	1,740	1,746	100.3%	22.7	0.0	C
	Right Turn	50	52	104.0%	5.4	0.0	A
	Subtotal	**2,400**	**2,410**	**100.4%**	**26.5**	**0.0**	**C**
Total		**4,250**	**4,279**	**100.7%**	**27.7**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	40	42	105.0%	60.4	0.0	E
	Through	470	471	100.2%	37.7	0.0	D
	Right Turn	20	20	100.0%	30.7	0.0	C
	Subtotal	**530**	**533**	**100.6%**	**39.2**	**0.0**	**D**
SB	Left Turn	80	74	92.5%	63.0	0.0	E
	Through	580	585	100.9%	55.1	0.0	E
	Right Turn	240	242	100.8%	53.1	0.0	D
	Subtotal	**900**	**901**	**100.1%**	**55.2**	**0.0**	**E**
EB	Left Turn	200	197	98.5%	70.2	0.0	E
	Through	300	296	98.7%	30.6	0.0	C
	Right Turn	70	76	108.6%	21.8	0.0	C
	Subtotal	**570**	**569**	**99.8%**	**43.1**	**0.0**	**D**
WB	Left Turn	20	16	80.0%	120.2	0.0	F
	Through	620	511	82.4%	83.9	0.0	F
	Right Turn	150	122	81.3%	50.8	0.0	D
	Subtotal	**790**	**649**	**82.2%**	**78.6**	**0.0**	**E**
Total		**2,790**	**2,652**	**95.1%**	**55.1**	**0.0**	**E**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	510	510	100.0%	9.6	0.0	A
	Right Turn	110	108	98.2%	0.2	0.0	A
	Subtotal	**620**	**618**	**99.7%**	**8.0**	**0.0**	**A**
SB	Left Turn						
	Through	670	681	101.6%	14.3	0.0	B
	Right Turn						
	Subtotal	**670**	**681**	**101.6%**	**14.3**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	250	210	84.0%	17.7	0.0	B
	Through	20	22	110.0%	5.6	0.0	A
	Right Turn						
	Subtotal	**270**	**232**	**85.9%**	**16.6**	**0.0**	**B**
Total		**1,560**	**1,531**	**98.1%**	**12.1**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	110	108	98.2%	4.6	0.0	A
	Subtotal	**110**	**108**	**98.2%**	**4.6**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	380	374	98.4%	13.0	0.0	B
	Right Turn	20	19	95.0%	5.9	0.0	A
	Subtotal	**400**	**393**	**98.3%**	**12.7**	**0.0**	**B**
WB	Left Turn	250	212	84.8%	289.9	0.0	F
	Through	790	648	82.0%	353.6	0.0	F
	Right Turn						
	Subtotal	**1,040**	**860**	**82.7%**	**337.9**	**0.0**	**F**
Total		**1,550**	**1,361**	**87.8%**	**217.5**	**0.0**	**F**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	130	130	100.0%	19.8	0.0	B
	Through	430	435	101.2%	13.9	0.0	B
	Right Turn	140	141	100.7%	2.2	0.0	A
	Subtotal	**700**	**706**	**100.9%**	**12.6**	**0.0**	**B**
SB	Left Turn	50	48	96.0%	15.6	0.0	B
	Through	530	522	98.5%	15.4	0.0	B
	Right Turn	280	286	102.1%	9.8	0.0	A
	Subtotal	**860**	**856**	**99.5%**	**13.5**	**0.0**	**B**
EB	Left Turn	40	42	105.0%	15.7	0.0	B
	Through						
	Right Turn	150	158	105.3%	21.9	0.0	C
	Subtotal	**190**	**200**	**105.3%**	**20.6**	**0.0**	**C**
WB	Left Turn	290	283	97.6%	22.2	0.0	C
	Through						
	Right Turn	270	275	101.9%	20.7	0.0	C
	Subtotal	**560**	**558**	**99.6%**	**21.5**	**0.0**	**C**
Total		**2,310**	**2,320**	**100.4%**	**15.8**	**0.0**	**B**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	310	310	100.0%	104.2	0.0	F
	Through	930	916	98.5%	35.7	0.0	D
	Right Turn	240	237	98.8%	14.7	0.0	B
	Subtotal	**1,480**	**1,463**	**98.9%**	**46.8**	**0.0**	**D**
SB	Left Turn	160	162	101.3%	63.4	0.0	E
	Through	610	615	100.8%	34.4	0.0	C
	Right Turn	170	163	95.9%	22.3	0.0	C
	Subtotal	**940**	**940**	**100.0%**	**37.3**	**0.0**	**D**
EB	Left Turn	320	314	98.1%	192.9	0.0	F
	Through	910	917	100.8%	41.8	0.0	D
	Right Turn	240	236	98.3%	11.4	0.0	B
	Subtotal	**1,470**	**1,467**	**99.8%**	**69.3**	**0.0**	**E**
WB	Left Turn	450	429	95.3%	176.8	0.0	F
	Through	1,660	1,588	95.7%	177.4	0.0	F
	Right Turn	450	429	95.3%	135.3	0.0	F
	Subtotal	**2,560**	**2,446**	**95.5%**	**169.9**	**0.0**	**F**
Total		**6,450**	**6,316**	**97.9%**	**98.3**	**0.0**	**F**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	420	411	97.9%	28.6	0.0	C
	Through	200	198	99.0%	8.9	0.0	A
	Right Turn	260	267	102.7%	6.7	0.0	A
	Subtotal	**880**	**876**	**99.5%**	**17.5**	**0.0**	**B**
SB	Left Turn	30	32	106.7%	33.0	0.0	C
	Through	290	288	99.3%	20.7	0.0	C
	Right Turn	450	457	101.6%	42.6	0.0	D
	Subtotal	**770**	**777**	**100.9%**	**34.1**	**0.0**	**C**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,650**	**1,653**	**100.2%**	**25.3**	**0.0**	**C**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	460	452	98.3%	54.0	0.0	D
	Through	410	413	100.7%	25.7	0.0	C
	Right Turn	150	146	97.3%	15.2	0.0	B
	Subtotal	**1,020**	**1,011**	**99.1%**	**36.8**	**0.0**	**D**
SB	Left Turn	60	59	98.3%	48.5	0.0	D
	Through	440	444	100.9%	42.4	0.0	D
	Right Turn	440	441	100.2%	42.8	0.0	D
	Subtotal	**940**	**944**	**100.4%**	**43.0**	**0.0**	**D**
EB	Left Turn	190	188	98.9%	61.1	0.0	E
	Through	770	768	99.7%	30.0	0.0	C
	Right Turn	250	257	102.8%	10.1	0.0	B
	Subtotal	**1,210**	**1,213**	**100.2%**	**30.6**	**0.0**	**C**
WB	Left Turn	180	169	93.9%	63.4	0.0	E
	Through	1,620	1,621	100.1%	64.9	0.0	E
	Right Turn	120	121	100.8%	42.9	0.0	D
	Subtotal	**1,920**	**1,911**	**99.5%**	**63.4**	**0.0**	**E**
Total		**5,090**	**5,079**	**99.8%**	**46.5**	**0.0**	**D**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	140	138	98.6%	39.9	0.0	D
	Through	60	60	100.0%	28.1	0.0	C
	Right Turn	120	126	105.0%	29.1	0.0	C
	Subtotal	**320**	**324**	**101.3%**	**33.5**	**0.0**	**C**
SB	Left Turn	70	69	98.6%	41.1	0.0	D
	Through	110	111	100.9%	34.7	0.0	C
	Right Turn	100	99	99.0%	10.0	0.0	A
	Subtotal	**280**	**279**	**99.6%**	**27.5**	**0.0**	**C**
EB	Left Turn	50	47	94.0%	46.4	0.0	D
	Through	420	415	98.8%	17.1	0.0	B
	Right Turn	80	78	97.5%	9.9	0.0	A
	Subtotal	**550**	**540**	**98.2%**	**18.6**	**0.0**	**B**
WB	Left Turn	230	224	97.4%	55.4	0.0	E
	Through	680	666	97.9%	17.9	0.0	B
	Right Turn	50	52	104.0%	13.6	0.0	B
	Subtotal	**960**	**942**	**98.1%**	**26.6**	**0.0**	**C**
Total		**2,110**	**2,085**	**98.8%**	**25.7**	**0.0**	**C**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	50	49	98.0%	42.6	0.0	D
	Through	300	298	99.3%	21.4	0.0	C
	Right Turn	240	246	102.5%	7.1	0.0	A
	Subtotal	**590**	**593**	**100.5%**	**17.2**	**0.0**	**B**
SB	Left Turn	70	72	102.9%	42.8	0.0	D
	Through	650	646	99.4%	29.0	0.0	C
	Right Turn	50	49	98.0%	24.5	0.0	C
	Subtotal	**770**	**767**	**99.6%**	**30.0**	**0.0**	**C**
EB	Left Turn	90	90	100.0%	28.7	0.0	C
	Through	30	30	100.0%	44.4	0.0	D
	Right Turn	80	80	100.0%	11.4	0.0	B
	Subtotal	**200**	**200**	**100.0%**	**24.1**	**0.0**	**C**
WB	Left Turn	450	451	100.2%	32.3	0.0	C
	Through	20	21	105.0%	38.3	0.0	D
	Right Turn	70	72	102.9%	3.5	0.0	A
	Subtotal	**540**	**544**	**100.7%**	**28.7**	**0.0**	**C**
Total		**2,100**	**2,104**	**100.2%**	**25.5**	**0.0**	**C**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	870	898	103.2%	58.6	0.0	E
	Through	380	391	102.9%	15.4	0.0	B
	Right Turn	40	40	100.0%	7.6	0.0	A
	Subtotal	**1,290**	**1,329**	**103.0%**	**44.4**	**0.0**	**D**
SB	Left Turn	30	29	96.7%	55.9	0.0	E
	Through	550	559	101.6%	58.0	0.0	E
	Right Turn	520	510	98.1%	33.6	0.0	C
	Subtotal	**1,100**	**1,098**	**99.8%**	**46.6**	**0.0**	**D**
EB	Left Turn	400	391	97.8%	51.7	0.0	D
	Through	280	274	97.9%	30.7	0.0	C
	Right Turn	300	315	105.0%	3.1	0.0	A
	Subtotal	**980**	**980**	**100.0%**	**30.2**	**0.0**	**C**
WB	Left Turn	30	30	100.0%	55.3	0.0	E
	Through	550	548	99.6%	64.0	0.0	E
	Right Turn	30	28	93.3%	8.0	0.0	A
	Subtotal	**610**	**606**	**99.3%**	**61.0**	**0.0**	**E**
Total		**3,980**	**4,013**	**100.8%**	**44.0**	**0.0**	**D**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	69	98.6%	34.6	0.0	C
	Through	250	254	101.6%	46.5	0.0	D
	Right Turn	50	50	100.0%	39.4	0.0	D
	Subtotal	**370**	**373**	**100.8%**	**43.3**	**0.0**	**D**
SB	Left Turn	180	183	101.7%	42.4	0.0	D
	Through	200	207	103.5%	40.6	0.0	D
	Right Turn	160	163	101.9%	12.9	0.0	B
	Subtotal	**540**	**553**	**102.4%**	**33.0**	**0.0**	**C**
EB	Left Turn	130	129	99.2%	46.4	0.0	D
	Through	320	321	100.3%	33.3	0.0	C
	Right Turn	40	40	100.0%	24.3	0.0	C
	Subtotal	**490**	**490**	**100.0%**	**36.0**	**0.0**	**D**
WB	Left Turn	40	40	100.0%	115.6	0.0	F
	Through	360	356	98.9%	91.5	0.0	F
	Right Turn	230	227	98.7%	66.1	0.0	E
	Subtotal	**630**	**623**	**98.9%**	**83.8**	**0.0**	**F**
Total		**2,030**	**2,039**	**100.4%**	**51.1**	**0.0**	**D**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	140	134	95.7%	29.4	0.0	C
	Through	360	364	101.1%	16.0	0.0	B
	Right Turn	30	32	106.7%	3.8	0.0	A
	Subtotal	**530**	**530**	**100.0%**	**18.7**	**0.0**	**B**
SB	Left Turn	20	23	115.0%	29.8	0.0	C
	Through	440	445	101.1%	15.9	0.0	B
	Right Turn	20	22	110.0%	8.2	0.0	A
	Subtotal	**480**	**490**	**102.1%**	**16.2**	**0.0**	**B**
EB	Left Turn	40	40	100.0%	27.1	0.0	C
	Through	40	37	92.5%	16.7	0.0	B
	Right Turn	210	214	101.9%	6.8	0.0	A
	Subtotal	**290**	**291**	**100.3%**	**10.8**	**0.0**	**B**
WB	Left Turn	30	31	103.3%	28.4	0.0	C
	Through	80	80	100.0%	19.3	0.0	B
	Right Turn	50	50	100.0%	3.4	0.0	A
	Subtotal	**160**	**161**	**100.6%**	**16.1**	**0.0**	**B**
Total		**1,460**	**1,472**	**100.8%**	**16.0**	**0.0**	**B**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	160	151	94.4%	15.8	0.0	B
	Through						
	Right Turn	270	268	99.3%	6.1	0.0	A
	Subtotal	**430**	**419**	**97.4%**	**9.6**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	320	321	100.3%	14.8	0.0	B
	Right Turn	160	156	97.5%	7.2	0.0	A
	Subtotal	**480**	**477**	**99.4%**	**12.3**	**0.0**	**B**
WB	Left Turn	310	309	99.7%	41.6	0.0	D
	Through	510	507	99.4%	5.7	0.0	A
	Right Turn						
	Subtotal	**820**	**816**	**99.5%**	**19.3**	**0.0**	**B**
Total		**1,730**	**1,712**	**99.0%**	**15.0**	**0.0**	**B**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	200	199	99.5%	53.5	0.0	D
	Through	310	319	102.9%	35.6	0.0	D
	Right Turn	130	128	98.5%	5.1	0.0	A
	Subtotal	**640**	**646**	**100.9%**	**35.1**	**0.0**	**D**
SB	Left Turn	30	31	103.3%	52.5	0.0	D
	Through	300	303	101.0%	47.2	0.0	D
	Right Turn	490	493	100.6%	19.6	0.0	B
	Subtotal	**820**	**827**	**100.9%**	**30.9**	**0.0**	**C**
EB	Left Turn	420	420	100.0%	32.2	0.0	C
	Through	1,040	1,053	101.3%	18.8	0.0	B
	Right Turn	260	268	103.1%	5.1	0.0	A
	Subtotal	**1,720**	**1,741**	**101.2%**	**19.9**	**0.0**	**B**
WB	Left Turn	200	196	98.0%	53.3	0.0	D
	Through	850	852	100.2%	32.3	0.0	C
	Right Turn	50	57	114.0%	8.0	0.0	A
	Subtotal	**1,100**	**1,105**	**100.5%**	**34.8**	**0.0**	**C**
Total		**4,280**	**4,319**	**100.9%**	**28.1**	**0.0**	**C**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	100	98	98.0%	13.9	0.0	B
	Through						
	Right Turn	210	216	102.9%	6.2	0.0	A
	Subtotal	**310**	**314**	**101.3%**	**8.6**	**0.0**	**A**
EB	Left Turn	140	143	102.1%	15.5	0.0	B
	Through	250	250	100.0%	5.9	0.0	A
	Right Turn						
	Subtotal	**390**	**393**	**100.8%**	**9.4**	**0.0**	**A**
WB	Left Turn						
	Through	220	220	100.0%	17.7	0.0	B
	Right Turn	80	80	100.0%	9.5	0.0	A
	Subtotal	**300**	**300**	**100.0%**	**15.5**	**0.0**	**B**
Total		**1,000**	**1,007**	**100.7%**	**11.0**	**0.0**	**B**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	100	100.0%	45.0	0.0	E
	Through	80	82	102.5%	23.3	0.0	C
	Right Turn	50	49	98.0%	8.0	0.0	A
	Subtotal	**230**	**231**	**100.4%**	**29.4**	**0.0**	**D**
SB	Left Turn	20	18	90.0%	42.7	0.0	E
	Through	100	100	100.0%	32.7	0.0	D
	Right Turn	30	34	113.3%	11.0	0.0	B
	Subtotal	**150**	**152**	**101.3%**	**29.0**	**0.0**	**D**
EB	Left Turn	200	199	99.5%	46.1	0.0	E
	Through	920	917	99.7%	15.5	0.0	C
	Right Turn	80	78	97.5%	4.5	0.0	A
	Subtotal	**1,200**	**1,194**	**99.5%**	**19.9**	**0.0**	**C**
WB	Left Turn	30	30	100.0%	41.3	0.0	E
	Through	970	978	100.8%	28.9	0.0	D
	Right Turn	20	23	115.0%	6.1	0.0	A
	Subtotal	**1,020**	**1,031**	**101.1%**	**28.8**	**0.0**	**D**
Total		**2,600**	**2,608**	**100.3%**	**24.8**	**0.0**	**C**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	110	100.0%	17.2	0.0	B
	Through	70	67	95.7%	12.1	0.0	B
	Right Turn	40	39	97.5%	5.9	0.0	A
	Subtotal	**220**	**216**	**98.2%**	**13.6**	**0.0**	**B**
SB	Left Turn	130	125	96.2%	17.8	0.0	B
	Through	80	80	100.0%	13.6	0.0	B
	Right Turn	150	153	102.0%	4.7	0.0	A
	Subtotal	**360**	**358**	**99.4%**	**11.3**	**0.0**	**B**
EB	Left Turn	80	78	97.5%	25.1	0.0	C
	Through	370	370	100.0%	12.9	0.0	B
	Right Turn	60	63	105.0%	7.3	0.0	A
	Subtotal	**510**	**511**	**100.2%**	**14.1**	**0.0**	**B**
WB	Left Turn	60	61	101.7%	25.2	0.0	C
	Through	190	189	99.5%	13.2	0.0	B
	Right Turn	80	81	101.3%	5.6	0.0	A
	Subtotal	**330**	**331**	**100.3%**	**13.6**	**0.0**	**B**
Total		**1,420**	**1,416**	**99.7%**	**13.2**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	111	100.9%	48.9	0.0	D
	Through	360	353	98.1%	51.7	0.0	D
	Right Turn	160	166	103.8%	11.6	0.0	B
	Subtotal	**630**	**630**	**100.0%**	**40.6**	**0.0**	**D**
SB	Left Turn	380	384	101.1%	61.2	0.0	E
	Through	490	481	98.2%	48.7	0.0	D
	Right Turn	20	20	100.0%	42.2	0.0	D
	Subtotal	**890**	**885**	**99.4%**	**54.0**	**0.0**	**D**
EB	Left Turn	80	79	98.8%	99.3	0.0	F
	Through	400	393	98.3%	60.4	0.0	E
	Right Turn	100	104	104.0%	50.3	0.0	D
	Subtotal	**580**	**576**	**99.3%**	**63.9**	**0.0**	**E**
WB	Left Turn	200	192	96.0%	74.1	0.0	E
	Through	230	226	98.3%	38.3	0.0	D
	Right Turn	350	351	100.3%	12.3	0.0	B
	Subtotal	**780**	**769**	**98.6%**	**35.4**	**0.0**	**D**
Total		**2,880**	**2,860**	**99.3%**	**48.0**	**0.0**	**D**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	280	282	100.7%	43.0	0.0	D
	Through	120	120	100.0%	25.5	0.0	C
	Right Turn	100	104	104.0%	7.6	0.0	A
	Subtotal	**500**	**506**	**101.2%**	**31.6**	**0.0**	**C**
SB	Left Turn	50	54	108.0%	39.4	0.0	D
	Through	160	158	98.8%	31.2	0.0	C
	Right Turn	110	115	104.5%	10.6	0.0	B
	Subtotal	**320**	**327**	**102.2%**	**25.3**	**0.0**	**C**
EB	Left Turn	70	68	97.1%	37.3	0.0	D
	Through	480	483	100.6%	23.8	0.0	C
	Right Turn	160	164	102.5%	15.7	0.0	B
	Subtotal	**710**	**715**	**100.7%**	**23.2**	**0.0**	**C**
WB	Left Turn	170	174	102.4%	36.9	0.0	D
	Through	440	442	100.5%	17.8	0.0	B
	Right Turn	50	47	94.0%	11.9	0.0	B
	Subtotal	**660**	**663**	**100.5%**	**22.4**	**0.0**	**C**
Total		**2,190**	**2,211**	**101.0%**	**25.2**	**0.0**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	130	130	100.0%	65.2	0.0	E
	Through	950	954	100.4%	28.7	0.0	C
	Right Turn	80	78	97.5%	9.1	0.0	A
	Subtotal	**1,160**	**1,162**	**100.2%**	**31.5**	**0.0**	**C**
SB	Left Turn	110	108	98.2%	64.0	0.0	E
	Through	1,010	1,017	100.7%	44.3	0.0	D
	Right Turn	100	100	100.0%	40.6	0.0	D
	Subtotal	**1,220**	**1,225**	**100.4%**	**45.7**	**0.0**	**D**
EB	Left Turn	110	113	102.7%	66.2	0.0	E
	Through	50	50	100.0%	47.2	0.0	D
	Right Turn	70	75	107.1%	19.0	0.0	B
	Subtotal	**230**	**238**	**103.5%**	**47.3**	**0.0**	**D**
WB	Left Turn	220	218	99.1%	50.8	0.0	D
	Through	280	289	103.2%	41.6	0.0	D
	Right Turn	160	158	98.8%	15.8	0.0	B
	Subtotal	**660**	**665**	**100.8%**	**38.5**	**0.0**	**D**
Total		**3,270**	**3,290**	**100.6%**	**39.3**	**0.0**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	30	100.0%	25.2	0.0	C
	Through	600	590	98.3%	8.9	0.0	A
	Right Turn	100	98	98.0%	4.3	0.0	A
	Subtotal	**730**	**718**	**98.4%**	**9.0**	**0.0**	**A**
SB	Left Turn	30	26	86.7%	22.0	0.0	C
	Through	650	648	99.7%	8.8	0.0	A
	Right Turn	30	33	110.0%	4.1	0.0	A
	Subtotal	**710**	**707**	**99.6%**	**9.1**	**0.0**	**A**
EB	Left Turn	20	19	95.0%	25.5	0.0	C
	Through	20	19	95.0%	25.2	0.0	C
	Right Turn	30	35	116.7%	4.6	0.0	A
	Subtotal	**70**	**73**	**104.3%**	**15.4**	**0.0**	**B**
WB	Left Turn	40	40	100.0%	22.5	0.0	C
	Through	20	24	120.0%	23.2	0.0	C
	Right Turn	30	30	100.0%	6.3	0.0	A
	Subtotal	**90**	**94**	**104.4%**	**17.5**	**0.0**	**B**
Total		**1,600**	**1,592**	**99.5%**	**9.8**	**0.0**	**A**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	80	100.0%	27.6	0.0	C
	Through	450	459	102.0%	10.0	0.0	A
	Right Turn	440	438	99.5%	9.7	0.0	A
	Subtotal	**970**	**977**	**100.7%**	**11.3**	**0.0**	**B**
SB	Left Turn	90	91	101.1%	27.8	0.0	C
	Through	490	493	100.6%	10.0	0.0	A
	Right Turn	600	594	99.0%	11.9	0.0	B
	Subtotal	**1,180**	**1,178**	**99.8%**	**12.3**	**0.0**	**B**
EB	Left Turn	90	86	95.6%	22.4	0.0	C
	Through						
	Right Turn	60	64	106.7%	23.7	0.0	C
	Subtotal	**150**	**150**	**100.0%**	**23.0**	**0.0**	**C**
WB	Left Turn	180	188	104.4%	22.5	0.0	C
	Through						
	Right Turn	50	49	98.0%	22.3	0.0	C
	Subtotal	**230**	**237**	**103.0%**	**22.5**	**0.0**	**C**
Total		**2,530**	**2,542**	**100.5%**	**13.5**	**0.0**	**B**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	260	257	98.8%	21.0	0.0	C
	Through	440	444	100.9%	12.3	0.0	B
	Right Turn	360	370	102.8%	8.1	0.0	A
	Subtotal	**1,060**	**1,071**	**101.0%**	**12.9**	**0.0**	**B**
SB	Left Turn	120	121	100.8%	26.9	0.0	C
	Through	500	501	100.2%	16.4	0.0	B
	Right Turn	60	66	110.0%	8.2	0.0	A
	Subtotal	**680**	**688**	**101.2%**	**17.5**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,740**	**1,759**	**101.1%**	**14.7**	**0.0**	**B**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	Does Not Exist in this Scenario					
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total							

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	20	100.0%	59.7	0.0	E
	Through	430	429	99.8%	31.6	0.0	C
	Right Turn	220	224	101.8%	8.6	0.0	A
	Subtotal	**670**	**673**	**100.4%**	**24.8**	**0.0**	**C**
SB	Left Turn	20	18	90.0%	64.7	0.0	E
	Through	550	555	100.9%	44.8	0.0	D
	Right Turn	730	734	100.5%	15.1	0.0	B
	Subtotal	**1,300**	**1,307**	**100.5%**	**28.4**	**0.0**	**C**
EB	Left Turn	710	711	100.1%	59.0	0.0	E
	Through	230	231	100.4%	26.4	0.0	C
	Right Turn	50	49	98.0%	6.8	0.0	A
	Subtotal	**990**	**991**	**100.1%**	**48.8**	**0.0**	**D**
WB	Left Turn	210	201	95.7%	43.2	0.0	D
	Through	290	298	102.8%	39.4	0.0	D
	Right Turn						
	Subtotal	**500**	**499**	**99.8%**	**40.9**	**0.0**	**D**
Total		**3,460**	**3,470**	**100.3%**	**35.3**	**0.0**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	169	286	323	1	0
	Through	2,428	65	134	166	0	0
	Right Turn	2,428	65	134	166	0	0
SB	Left Turn	300	25	64	83	0	0
	Through	2,373	103	191	228	0	0
	Right Turn	2,373	103	191	228	0	0
EB	Left Turn	530	66	135	165	0	0
	Through	3,295	253	392	428	1	0
	Right Turn	410	56	158	219	0	0
WB	Left Turn	580	172	289	324	0	0
	Through	2,518	255	404	446	0	0
	Right Turn	530	24	62	88	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	40	84	111	0	0
	Through	923	30	62	79	0	0
	Right Turn						
SB	Left Turn	550	32	78	104	0	0
	Through	3,946	38	76	96	0	0
	Right Turn	3,946	36	86	121	0	0
EB	Left Turn	715	50	113	146	0	0
	Through	2,518	172	651	944	0	0
	Right Turn	355	170	316	345	0	0
WB	Left Turn	920	165	238	266	0	0
	Through	2,590	209	338	396	0	0
	Right Turn	750	15	42	58	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	53	140	**231**	0	0
	Through	464	171	270	315	6	0
	Right Turn	464	158	255	313	0	0
SB	Left Turn	290	95	239	**308**	0	0
	Through	5,159	288	484	541	10	0
	Right Turn	5,159	335	528	554	0	0
EB	Left Turn	250	189	**310**	**307**	6	0
	Through	5,459	189	367	431	3	0
	Right Turn	5,459	189	367	431	3	0
WB	Left Turn	90	27	**91**	**141**	1	0
	Through	491	**496**	**505**	**506**	64	47
	Right Turn	160	128	**277**	**220**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	110	201	245	0	0
	Right Turn						
SB	Left Turn						
	Through	464	125	252	300	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	94	167	186	0	0
	Through						
	Right Turn	672	94	167	186	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	25	60	85	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	121	230	262	0	0
	Right Turn	491	121	230	262	0	0
WB	Left Turn	530	504	**819**	**590**	0	0
	Through	3,699	3082	**4656**	**3751**	58	50
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	63	123	151	0	0
	Through	737	61	115	141	0	0
	Right Turn	700	23	56	65	0	0
SB	Left Turn	550	25	68	92	0	0
	Through	1,039	81	145	175	0	0
	Right Turn	650	74	138	183	0	0
EB	Left Turn	300	19	51	64	0	0
	Through						
	Right Turn	1,111	95	179	199	0	0
WB	Left Turn	300	68	122	149	0	0
	Through						
	Right Turn	1,079	127	212	250	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	199	**309**	**283**	17	0
	Through	3,853	236	451	460	5	0
	Right Turn	200	103	**227**	**260**	0	0
SB	Left Turn	500	119	195	218	0	0
	Through	1,480	193	277	310	0	0
	Right Turn	1,480	141	234	264	0	0
EB	Left Turn	350	276	**459**	**366**	21	0
	Through	4,930	304	741	556	0	0
	Right Turn	350	67	128	176	0	0
WB	Left Turn	300	**615**	**431**	**360**	2	0
	Through	5,938	1290	2433	2142	49	0
	Right Turn	350	**377**	**511**	**410**	4	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	196	341	414	0	0
	Through	902	20	58	79	0	0
	Right Turn	600	39	96	127	0	0
SB	Left Turn	650	24	64	91	0	0
	Through	952	87	332	279	0	0
	Right Turn	650	260	527	525	2	0
EB	Left Turn	500	30	69	85	0	0
	Through						
	Right Turn	860	51	111	131	0	0
WB	Left Turn	500	89	142	162	0	0
	Through						
	Right Turn	901	41	90	107	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	214	**304**	**332**	1	0
	Through	1,262	129	235	300	0	0
	Right Turn	1,262	126	214	237	0	0
SB	Left Turn	300	53	104	128	0	0
	Through	1,262	190	407	469	0	0
	Right Turn	300	234	**373**	**348**	9	0
EB	Left Turn	300	115	199	253	0	0
	Through	1,409	203	292	326	0	0
	Right Turn	300	57	116	144	0	0
WB	Left Turn	300	195	**373**	**359**	0	0
	Through	3,308	453	715	741	29	0
	Right Turn	3,308	392	636	648	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	101	178	198	1	0
	Through	2,570	44	98	126	0	0
	Right Turn	2,570	83	154	187	0	0
SB	Left Turn	150	61	122	**154**	0	0
	Through	2,170	90	180	235	14	0
	Right Turn	75	53	**109**	**134**	1	0
EB	Left Turn	525	45	102	120	0	0
	Through	2,722	88	150	178	0	0
	Right Turn	2,722	95	172	201	0	0
WB	Left Turn	625	99	163	188	0	0
	Through	3,227	117	204	240	0	0
	Right Turn	3,227	130	225	279	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	45	91	104	0	0
	Through	1,181	83	146	177	0	0
	Right Turn	1,181	64	114	140	0	0
SB	Left Turn	315	64	142	209	0	0
	Through	3,988	151	296	374	1	0
	Right Turn	3,988	231	372	428	0	0
EB	Left Turn	410	57	115	144	0	0
	Through	1,731	29	72	100	0	0
	Right Turn	1,731	42	84	114	0	0
WB	Left Turn	1,878	186	284	312	0	0
	Through	1,878	14	45	65	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	376	608	628	2	0
	Through	2,052	94	181	264	0	0
	Right Turn	2,052	75	147	179	0	0
SB	Left Turn	300	37	136	222	0	0
	Through	466	276	**481**	**498**	7	7
	Right Turn	300	224	**393**	**360**	15	0
EB	Left Turn	1,374	179	254	276	0	0
	Through	1,374	98	167	201	0	0
	Right Turn						
WB	Left Turn	300	32	75	110	0	0
	Through	1,274	221	306	330	1	0
	Right Turn	300	16	41	47	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	77	213	**309**	0	0
	Through	1,227	257	431	500	13	0
	Right Turn	1,227	257	431	500	13	0
SB	Left Turn	175	145	**257**	**234**	6	0
	Through	1,669	216	446	517	25	0
	Right Turn	100	**101**	**189**	**160**	1	0
EB	Left Turn	3,220	95	172	199	0	0
	Through	3,220	188	333	388	0	0
	Right Turn	3,220	188	333	388	0	0
WB	Left Turn	75	58	**134**	**134**	6	0
	Through	3,356	562	1191	1156	60	0
	Right Turn	150	**168**	**274**	**210**	4	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	80	147	174	0	0
	Through	1,058	101	205	266	0	0
	Right Turn	1,058	15	74	157	0	0
SB	Left Turn	300	20	53	66	0	0
	Through	414	92	154	187	0	0
	Right Turn	414	74	134	165	0	0
EB	Left Turn	300	33	76	89	0	0
	Through	1,163	25	63	79	0	0
	Right Turn	300	67	119	144	0	0
WB	Left Turn	300	27	70	90	0	0
	Through	1,019	37	84	110	0	0
	Right Turn	300	20	49	58	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	63	110	132	0	0
	Through						
	Right Turn	150	53	89	117	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	85	136	152	0	0
	Right Turn	300	84	143	168	0	0
WB	Left Turn	400	183	339	355	2	0
	Through	873	57	196	203	0	0
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	726	72	130	152	0	0
	Through	726	111	187	216	0	0
	Right Turn	840	38	78	104	0	0
SB	Left Turn	520	20	50	63	0	0
	Through	1,218	118	196	228	0	0
	Right Turn	720	168	293	336	0	0
EB	Left Turn	800	140	217	259	0	0
	Through	1,066	172	256	289	0	0
	Right Turn	1,000	57	112	151	0	0
WB	Left Turn	1,606	68	124	136	0	0
	Through	1,606	165	247	277	0	0
	Right Turn	850	14	44	62	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn	826	49	97	126	0	0
	Through						
	Right Turn	300	59	103	128	0	0
EB	Left Turn	300	66	122	157	0	0
	Through	2,884	36	79	98	0	0
	Right Turn						
WB	Left Turn						
	Through	5,348	98	179	217	0	0
	Right Turn	5,348	98	179	217	0	0

Intersection 18 **Bentley Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	79	152	174	1	0
	Through	1,462	47	113	152	0	0
	Right Turn	300	19	53	76	0	0
SB	Left Turn	150	16	47	70	0	0
	Through	1,179	61	121	159	0	0
	Right Turn	300	17	47	63	0	0
EB	Left Turn	680	142	243	290	0	0
	Through	2,753	123	214	245	0	0
	Right Turn	580	15	40	57	0	0
WB	Left Turn	770	25	63	84	0	0
	Through	2,387	207	335	388	0	0
	Right Turn	720	7	28	47	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	52	95	112	0	0
	Through	1,264	42	85	107	0	0
	Right Turn	1,264	42	85	107	0	0
SB	Left Turn	100	53	99	**129**	1	0
	Through	1,626	36	81	123	1	0
	Right Turn	75	42	**77**	**97**	0	0
EB	Left Turn	250	42	88	114	0	0
	Through	1,565	61	120	158	0	0
	Right Turn	1,565	79	146	182	0	0
WB	Left Turn	250	41	78	104	0	0
	Through	2,560	64	113	133	0	0
	Right Turn	300	42	83	104	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	208	304	340	0	0
	Through	1,934	211	319	366	1	0
	Right Turn	300	79	166	256	0	0
SB	Left Turn	5,862	413	627	667	0	0
	Through	5,862	413	627	667	0	0
	Right Turn	5,862	332	514	549	0	0
EB	Left Turn	50	**83**	**129**	**110**	50	0
	Through	2,671	360	711	856	54	0
	Right Turn	200	**222**	**300**	**260**	17	0
WB	Left Turn	300	205	**353**	**340**	6	0
	Through	2,545	180	374	436	1	0
	Right Turn	2,545	109	206	277	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	113	171	189	0	0
	Through	1,873	67	129	170	19	0
	Right Turn	50	45	**87**	**105**	2	0
SB	Left Turn	100	45	**102**	**142**	1	0
	Through	2,914	95	163	205	9	0
	Right Turn	100	56	**119**	**152**	0	0
EB	Left Turn	250	46	93	122	0	0
	Through	1,994	140	232	262	1	0
	Right Turn	1,994	147	236	277	0	0
WB	Left Turn	200	102	169	196	0	0
	Through	2,690	89	161	186	0	0
	Right Turn	2,690	104	183	210	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	125	218	253	0	0
	Through	1,383	223	337	364	2	0
	Right Turn	300	35	110	193	0	0
SB	Left Turn	400	119	281	376	0	0
	Through	2,186	329	511	572	4	0
	Right Turn	2,186	346	529	582	0	0
EB	Left Turn	225	116	213	**238**	2	0
	Through	5,602	33	85	105	0	0
	Right Turn	225	55	109	136	0	0
WB	Left Turn	225	165	**270**	**279**	6	0
	Through	2,173	121	256	352	0	0
	Right Turn	225	59	119	162	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	25	65	95	0	0
	Through	1,326	81	149	176	0	0
	Right Turn	1,326	61	133	179	0	0
SB	Left Turn	350	24	59	74	0	0
	Through	1,404	93	166	198	0	0
	Right Turn	350	13	45	62	0	0
EB	Left Turn	225	14	41	53	0	0
	Through	1,997	13	41	59	0	0
	Right Turn	225	15	41	60	0	0
WB	Left Turn	175	29	66	82	0	0
	Through	2,609	31	70	86	0	0
	Right Turn	2,609	31	70	86	0	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	53	105	135	0	0
	Through	1,357	49	101	124	0	0
	Right Turn	700	88	162	217	0	0
SB	Left Turn	600	48	104	139	0	0
	Through	1,181	63	120	143	0	0
	Right Turn	600	130	238	285	0	0
EB	Left Turn	500	41	86	107	0	0
	Through						
	Right Turn	500	44	92	119	0	0
WB	Left Turn	500	57	102	133	0	0
	Through						
	Right Turn	350	33	77	102	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **AM Peak Hour**

Intersection 25 **NCC SPUI & Roselle** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	108	188	212	0	0
	Through	671	87	169	212	0	0
	Right Turn	400	59	127	177	0	0
SB	Left Turn	550	60	118	137	0	0
	Through	1,058	70	140	177	0	0
	Right Turn	550	8	35	66	0	0
EB	Left Turn	500	8	29	43	0	0
	Through						
	Right Turn	1,221	72	135	167	0	0
WB	Left Turn	500	58	97	122	0	0
	Through						
	Right Turn	1,160	48	99	123	0	0

Intersection 27 **NCC & Albers Rd** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	21	82	166	0	0
	Through	2,741	230	400	485	13	0
	Right Turn	300	56	176	**306**	0	0
SB	Left Turn	200	20	107	184	0	0
	Through	1,383	300	563	605	21	0
	Right Turn	1,383	1	21	21	0	0
EB	Left Turn	920	274	453	470	0	0
	Through	1,126	61	116	137	0	0
	Right Turn	580	24	62	85	0	0
WB	Left Turn	720	74	136	159	0	0
	Through	2,965	96	165	198	0	0
	Right Turn	580	13	42	61	0	0

Intersection 28 **NCC & SMITH** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,306	33	72	108	0	0
	Through	1,306	33	72	108	0	0
	Right Turn	1,306	33	72	108	0	0
SB	Left Turn	1,066	22	59	79	0	0
	Through	1,066	22	59	79	0	0
	Right Turn	630	36	71	92	0	0
EB	Left Turn	870	63	119	146	0	0
	Through	5,343	31	77	96	0	0
	Right Turn	670	3	18	32	0	0
WB	Left Turn	650	15	46	62	0	0
	Through	4,038	53	111	134	0	0
	Right Turn	650	10	39	62	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	160	159	99.4%	53.9	0.0	D
	Through	110	111	100.9%	72.1	0.0	E
	Right Turn	190	194	102.1%	54.3	0.0	D
	Subtotal	**460**	**464**	**100.9%**	**58.4**	**0.0**	**E**
SB	Left Turn	150	142	94.7%	51.0	0.0	D
	Through	90	88	97.8%	46.3	0.0	D
	Right Turn	20	18	90.0%	26.1	0.0	C
	Subtotal	**260**	**248**	**95.4%**	**47.5**	**0.0**	**D**
EB	Left Turn	60	64	106.7%	59.9	0.0	E
	Through	1,580	1,585	100.3%	43.7	0.0	D
	Right Turn	270	263	97.4%	14.8	0.0	B
	Subtotal	**1,910**	**1,912**	**100.1%**	**40.3**	**0.0**	**D**
WB	Left Turn	140	133	95.0%	56.8	0.0	E
	Through	1,750	1,748	99.9%	34.5	0.0	C
	Right Turn	80	84	105.0%	13.8	0.0	B
	Subtotal	**1,970**	**1,965**	**99.7%**	**35.1**	**0.0**	**D**
Total		**4,600**	**4,589**	**99.8%**	**40.3**	**0.0**	**D**

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	580	568	97.9%	163.9	0.0	F
	Through	220	223	101.4%	39.6	0.0	D
	Right Turn	860	858	99.8%	9.3	0.0	A
	Subtotal	**1,660**	**1,649**	**99.3%**	**66.6**	**0.0**	**E**
SB	Left Turn	160	155	96.9%	161.2	0.0	F
	Through	210	217	103.3%	111.5	0.0	F
	Right Turn	40	42	105.0%	52.4	0.0	D
	Subtotal	**410**	**414**	**101.0%**	**124.1**	**0.0**	**F**
EB	Left Turn	30	28	93.3%	52.9	0.0	D
	Through	1,570	1,571	100.1%	56.3	0.0	E
	Right Turn	320	314	98.1%	30.2	0.0	C
	Subtotal	**1,920**	**1,913**	**99.6%**	**52.0**	**0.0**	**D**
WB	Left Turn	530	530	100.0%	60.2	0.0	E
	Through	1,350	1,348	99.9%	14.9	0.0	B
	Right Turn	60	58	96.7%	4.3	0.0	A
	Subtotal	**1,940**	**1,936**	**99.8%**	**27.0**	**0.0**	**C**
Total		**5,930**	**5,912**	**99.7%**	**52.9**	**0.0**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	80	80	100.0%	68.8	0.0	E
	Through	610	614	100.7%	42.9	0.0	D
	Right Turn	20	20	100.0%	35.3	0.0	D
	Subtotal	**710**	**714**	**100.6%**	**45.6**	**0.0**	**D**
SB	Left Turn	330	216	65.5%	842.1	0.0	F
	Through	690	677	98.1%	84.2	0.0	F
	Right Turn	300	295	98.3%	76.5	0.0	E
	Subtotal	**1,320**	**1,188**	**90.0%**	**220.1**	**0.0**	**F**
EB	Left Turn	210	194	92.4%	385.1	0.0	F
	Through	440	396	90.0%	296.1	0.0	F
	Right Turn	40	39	97.5%	283.9	0.0	F
	Subtotal	**690**	**629**	**91.2%**	**322.8**	**0.0**	**F**
WB	Left Turn	20	18	90.0%	119.3	0.0	F
	Through	450	444	98.7%	88.2	0.0	F
	Right Turn	100	99	99.0%	47.6	0.0	D
	Subtotal	**570**	**561**	**98.4%**	**82.0**	**0.0**	**F**
Total		**3,290**	**3,092**	**94.0%**	**175.6**	**0.0**	**F**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through	690	695	100.7%	9.7	0.0	A
	Right Turn	270	265	98.1%	0.7	0.0	A
	Subtotal	**960**	**960**	**100.0%**	**7.2**	**0.0**	**A**
SB	Left Turn						
	Through	750	736	98.1%	13.5	0.0	B
	Right Turn						
	Subtotal	**750**	**736**	**98.1%**	**13.5**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	110	106	96.4%	20.7	0.0	C
	Through	20	22	110.0%	5.2	0.0	A
	Right Turn						
	Subtotal	**130**	**128**	**98.5%**	**18.0**	**0.0**	**B**
Total		**1,840**	**1,824**	**99.1%**	**10.5**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 5 **SR 108/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn						
	Through						
	Right Turn	270	266	98.5%	7.8	0.0	A
	Subtotal	**270**	**266**	**98.5%**	**7.8**	**0.0**	**A**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	770	617	80.1%	42.1	0.0	D
	Right Turn	20	18	90.0%	26.0	0.0	C
	Subtotal	**790**	**635**	**80.4%**	**41.6**	**0.0**	**D**
WB	Left Turn	110	111	100.9%	31.9	0.0	C
	Through	570	565	99.1%	57.5	0.0	E
	Right Turn						
	Subtotal	**680**	**676**	**99.4%**	**53.3**	**0.0**	**D**
Total		**1,740**	**1,577**	**90.6%**	**40.9**	**0.0**	**D**

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	200	197	98.5%	19.8	0.0	B
	Through	660	666	100.9%	14.6	0.0	B
	Right Turn	700	692	98.9%	8.3	0.0	A
	Subtotal	**1,560**	**1,555**	**99.7%**	**12.5**	**0.0**	**B**
SB	Left Turn	170	170	100.0%	26.1	0.0	C
	Through	520	515	99.0%	23.2	0.0	C
	Right Turn	210	208	99.0%	10.6	0.0	B
	Subtotal	**900**	**893**	**99.2%**	**20.8**	**0.0**	**C**
EB	Left Turn	240	237	98.8%	26.1	0.0	C
	Through						
	Right Turn	340	341	100.3%	22.8	0.0	C
	Subtotal	**580**	**578**	**99.7%**	**24.2**	**0.0**	**C**
WB	Left Turn	290	289	99.7%	26.6	0.0	C
	Through						
	Right Turn	200	200	100.0%	26.2	0.0	C
	Subtotal	**490**	**489**	**99.8%**	**26.4**	**0.0**	**C**
Total		**3,530**	**3,515**	**99.6%**	**18.4**	**0.0**	**B**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	400	342	85.5%	409.9	0.0	F
	Through	1,170	1,059	90.5%	256.3	0.0	F
	Right Turn	440	401	91.1%	260.2	0.0	F
	Subtotal	**2,010**	**1,802**	**89.7%**	**286.3**	**0.0**	**F**
SB	Left Turn	730	728	99.7%	105.3	0.0	F
	Through	1,340	1,328	99.1%	58.8	0.0	E
	Right Turn	290	290	100.0%	64.8	0.0	E
	Subtotal	**2,360**	**2,346**	**99.4%**	**74.0**	**0.0**	**E**
EB	Left Turn	380	269	70.8%	630.1	0.0	F
	Through	1,790	1,265	70.7%	671.3	0.0	F
	Right Turn	480	344	71.7%	629.5	0.0	F
	Subtotal	**2,650**	**1,878**	**70.9%**	**657.7**	**0.0**	**F**
WB	Left Turn	530	299	56.4%	1043.0	0.0	F
	Through	1,010	747	74.0%	66.5	0.0	E
	Right Turn	290	220	75.9%	18.9	0.0	B
	Subtotal	**1,830**	**1,266**	**69.2%**	**288.9**	**0.0**	**F**
Total		**8,850**	**7,292**	**82.4%**	**314.1**	**0.0**	**F**

Intersection 8 **Coffee Road/Claribel Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	300	305	101.7%	31.1	0.0	C
	Through	260	261	100.4%	13.0	0.0	B
	Right Turn	420	421	100.2%	15.4	0.0	B
	Subtotal	**980**	**987**	**100.7%**	**19.6**	**0.0**	**B**
SB	Left Turn	50	46	92.0%	36.5	0.0	D
	Through	290	295	101.7%	22.5	0.0	C
	Right Turn	260	263	101.2%	15.7	0.0	B
	Subtotal	**600**	**604**	**100.7%**	**20.6**	**0.0**	**C**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,580**	**1,591**	**100.7%**	**20.0**	**0.0**	**B**

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	340	351	103.2%	67.8	0.0	E
	Through	500	505	101.0%	40.4	0.0	D
	Right Turn	200	193	96.5%	30.5	0.0	C
	Subtotal	**1,040**	**1,049**	**100.9%**	**47.7**	**0.0**	**D**
SB	Left Turn	140	138	98.6%	55.8	0.0	E
	Through	270	277	102.6%	38.7	0.0	D
	Right Turn	380	387	101.8%	27.9	0.0	C
	Subtotal	**790**	**802**	**101.5%**	**36.4**	**0.0**	**D**
EB	Left Turn	510	504	98.8%	79.2	0.0	E
	Through	1,880	1,885	100.3%	62.5	0.0	E
	Right Turn	470	469	99.8%	16.1	0.0	B
	Subtotal	**2,860**	**2,858**	**99.9%**	**57.8**	**0.0**	**E**
WB	Left Turn	130	127	97.7%	60.9	0.0	E
	Through	1,150	1,151	100.1%	43.6	0.0	D
	Right Turn	150	147	98.0%	24.4	0.0	C
	Subtotal	**1,430**	**1,425**	**99.7%**	**43.2**	**0.0**	**D**
Total		**6,120**	**6,134**	**100.2%**	**49.9**	**0.0**	**D**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	190	190	100.0%	55.3	0.0	E
	Through	170	164	96.5%	31.3	0.0	C
	Right Turn	320	328	102.5%	42.1	0.0	D
	Subtotal	**680**	**682**	**100.3%**	**43.2**	**0.0**	**D**
SB	Left Turn	60	62	103.3%	74.0	0.0	E
	Through	100	93	93.0%	39.3	0.0	D
	Right Turn	50	48	96.0%	7.8	0.0	A
	Subtotal	**210**	**203**	**96.7%**	**42.4**	**0.0**	**D**
EB	Left Turn	110	112	101.8%	52.0	0.0	D
	Through	710	721	101.5%	34.6	0.0	C
	Right Turn	170	170	100.0%	30.6	0.0	C
	Subtotal	**990**	**1,003**	**101.3%**	**35.9**	**0.0**	**D**
WB	Left Turn	440	437	99.3%	53.5	0.0	D
	Through	440	450	102.3%	22.6	0.0	C
	Right Turn	50	48	96.0%	17.5	0.0	B
	Subtotal	**930**	**935**	**100.5%**	**36.8**	**0.0**	**D**
Total		**2,810**	**2,823**	**100.5%**	**38.4**	**0.0**	**D**

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	190	187	98.4%	54.1	0.0	D
	Through	710	716	100.8%	25.3	0.0	C
	Right Turn	610	606	99.3%	13.1	0.0	B
	Subtotal	**1,510**	**1,509**	**99.9%**	**24.0**	**0.0**	**C**
SB	Left Turn	80	81	101.3%	56.7	0.0	E
	Through	690	683	99.0%	44.5	0.0	D
	Right Turn	50	53	106.0%	42.2	0.0	D
	Subtotal	**820**	**817**	**99.6%**	**45.6**	**0.0**	**D**
EB	Left Turn	90	87	96.7%	31.9	0.0	C
	Through	20	18	90.0%	43.6	0.0	D
	Right Turn	140	140	100.0%	12.6	0.0	B
	Subtotal	**250**	**245**	**98.0%**	**21.7**	**0.0**	**C**
WB	Left Turn	440	438	99.5%	36.7	0.0	D
	Through	20	19	95.0%	48.4	0.0	D
	Right Turn	60	62	103.3%	3.7	0.0	A
	Subtotal	**520**	**519**	**99.8%**	**33.2**	**0.0**	**C**
Total		**3,100**	**3,090**	**99.7%**	**31.0**	**0.0**	**C**

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	610	601	98.5%	47.3	0.0	D
	Through	720	724	100.6%	22.0	0.0	C
	Right Turn	100	106	106.0%	16.2	0.0	B
	Subtotal	**1,430**	**1,431**	**100.1%**	**32.2**	**0.0**	**C**
SB	Left Turn	40	40	100.0%	57.4	0.0	E
	Through	660	660	100.0%	41.7	0.0	D
	Right Turn	300	304	101.3%	14.5	0.0	B
	Subtotal	**1,000**	**1,004**	**100.4%**	**34.1**	**0.0**	**C**
EB	Left Turn	430	431	100.2%	57.7	0.0	E
	Through	780	787	100.9%	46.2	0.0	D
	Right Turn	1,030	1,028	99.8%	11.4	0.0	B
	Subtotal	**2,240**	**2,246**	**100.3%**	**32.5**	**0.0**	**C**
WB	Left Turn	60	56	93.3%	67.0	0.0	E
	Through	550	553	100.5%	55.1	0.0	E
	Right Turn	40	39	97.5%	10.0	0.0	A
	Subtotal	**650**	**648**	**99.7%**	**53.4**	**0.0**	**D**
Total		**5,320**	**5,329**	**100.2%**	**35.3**	**0.0**	**D**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	71	101.4%	99.8	0.0	F
	Through	310	308	99.4%	131.0	0.0	F
	Right Turn	50	51	102.0%	123.9	0.0	F
	Subtotal	**430**	**430**	**100.0%**	**125.0**	**0.0**	**F**
SB	Left Turn	280	274	97.9%	102.7	0.0	F
	Through	200	203	101.5%	94.2	0.0	F
	Right Turn	180	178	98.9%	58.4	0.0	E
	Subtotal	**660**	**655**	**99.2%**	**88.0**	**0.0**	**F**
EB	Left Turn	260	259	99.6%	91.0	0.0	F
	Through	520	513	98.7%	85.8	0.0	F
	Right Turn	40	44	110.0%	79.9	0.0	E
	Subtotal	**820**	**816**	**99.5%**	**87.1**	**0.0**	**F**
WB	Left Turn	50	47	94.0%	195.2	0.0	F
	Through	360	359	99.7%	158.7	0.0	F
	Right Turn	150	150	100.0%	125.8	0.0	F
	Subtotal	**560**	**556**	**99.3%**	**152.9**	**0.0**	**F**
Total		**2,470**	**2,457**	**99.5%**	**108.9**	**0.0**	**F**

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	220	219	99.5%	41.0	0.0	D
	Through	510	499	97.8%	26.9	0.0	C
	Right Turn	50	49	98.0%	7.4	0.0	A
	Subtotal	**780**	**767**	**98.3%**	**29.7**	**0.0**	**C**
SB	Left Turn	40	41	102.5%	37.8	0.0	D
	Through	410	404	98.5%	24.4	0.0	C
	Right Turn	20	23	115.0%	12.0	0.0	B
	Subtotal	**470**	**468**	**99.6%**	**25.0**	**0.0**	**C**
EB	Left Turn	20	18	90.0%	41.7	0.0	D
	Through	190	186	97.9%	31.8	0.0	C
	Right Turn	240	239	99.6%	8.9	0.0	A
	Subtotal	**450**	**443**	**98.4%**	**19.8**	**0.0**	**B**
WB	Left Turn	160	150	93.8%	35.6	0.0	D
	Through	60	60	100.0%	18.9	0.0	B
	Right Turn	20	22	110.0%	2.4	0.0	A
	Subtotal	**240**	**232**	**96.7%**	**28.1**	**0.0**	**C**
Total		**1,940**	**1,910**	**98.5%**	**26.1**	**0.0**	**C**

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	97	97.0%	25.1	0.0	C
	Through						
	Right Turn	330	327	99.1%	9.7	0.0	A
	Subtotal	**430**	**424**	**98.6%**	**13.2**	**0.0**	**B**
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	640	642	100.3%	21.8	0.0	C
	Right Turn	270	271	100.4%	16.1	0.0	B
	Subtotal	**910**	**913**	**100.3%**	**20.1**	**0.0**	**C**
WB	Left Turn	340	343	100.9%	28.9	0.0	C
	Through	440	436	99.1%	4.5	0.0	A
	Right Turn						
	Subtotal	**780**	**779**	**99.9%**	**15.2**	**0.0**	**B**
Total		**2,120**	**2,116**	**99.8%**	**16.9**	**0.0**	**B**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	380	381	100.3%	61.6	0.0	E
	Through	310	303	97.7%	35.0	0.0	C
	Right Turn	220	215	97.7%	7.5	0.0	A
	Subtotal	**910**	**899**	**98.8%**	**39.7**	**0.0**	**D**
SB	Left Turn	60	58	96.7%	56.7	0.0	E
	Through	420	406	96.7%	50.6	0.0	D
	Right Turn	440	433	98.4%	21.8	0.0	C
	Subtotal	**920**	**897**	**97.5%**	**37.1**	**0.0**	**D**
EB	Left Turn	500	498	99.6%	46.5	0.0	D
	Through	1,050	1,044	99.4%	29.9	0.0	C
	Right Turn	230	230	100.0%	6.7	0.0	A
	Subtotal	**1,780**	**1,772**	**99.6%**	**31.6**	**0.0**	**C**
WB	Left Turn	440	431	98.0%	56.2	0.0	E
	Through	980	974	99.4%	37.9	0.0	D
	Right Turn	40	39	97.5%	8.4	0.0	A
	Subtotal	**1,460**	**1,444**	**98.9%**	**42.6**	**0.0**	**D**
Total		**5,070**	**5,012**	**98.9%**	**37.2**	**0.0**	**D**

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	140	132	94.3%	23.0	0.0	C
	Through						
	Right Turn	260	260	100.0%	9.7	0.0	A
	Subtotal	**400**	**392**	**98.0%**	**14.2**	**0.0**	**B**
EB	Left Turn	360	364	101.1%	25.7	0.0	C
	Through	250	258	103.2%	8.4	0.0	A
	Right Turn						
	Subtotal	**610**	**622**	**102.0%**	**18.5**	**0.0**	**B**
WB	Left Turn						
	Through	290	293	101.0%	32.5	0.0	C
	Right Turn	100	102	102.0%	21.9	0.0	C
	Subtotal	**390**	**395**	**101.3%**	**29.8**	**0.0**	**C**
Total		**1,400**	**1,409**	**100.6%**	**20.5**	**0.0**	**C**

Intersection 18 **Bentley Road/Claribel Road** **Side Street Stop**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	100	101	101.0%	49.0	0.0	E
	Through	110	119	108.2%	22.4	0.0	C
	Right Turn	70	74	105.7%	10.5	0.0	B
	Subtotal	**280**	**294**	**105.0%**	**28.5**	**0.0**	**D**
SB	Left Turn	20	18	90.0%	44.9	0.0	E
	Through	150	150	100.0%	32.7	0.0	D
	Right Turn	340	341	100.3%	19.4	0.0	C
	Subtotal	**510**	**509**	**99.8%**	**24.2**	**0.0**	**C**
EB	Left Turn	120	117	97.5%	58.0	0.0	F
	Through	1,050	1,055	100.5%	31.6	0.0	D
	Right Turn	160	158	98.8%	13.2	0.0	B
	Subtotal	**1,330**	**1,330**	**100.0%**	**31.7**	**0.0**	**D**
WB	Left Turn	90	84	93.3%	45.5	0.0	E
	Through	1,020	1,024	100.4%	29.9	0.0	D
	Right Turn	20	20	100.0%	6.1	0.0	A
	Subtotal	**1,130**	**1,128**	**99.8%**	**30.6**	**0.0**	**D**
Total		**3,250**	**3,261**	**100.3%**	**29.9**	**0.0**	**D**

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	105	95.5%	21.8	0.0	C
	Through	60	60	100.0%	16.4	0.0	B
	Right Turn	80	85	106.3%	8.6	0.0	A
	Subtotal	**250**	**250**	**100.0%**	**16.0**	**0.0**	**B**
SB	Left Turn	100	98	98.0%	21.8	0.0	C
	Through	60	61	101.7%	16.3	0.0	B
	Right Turn	110	114	103.6%	6.0	0.0	A
	Subtotal	**270**	**273**	**101.1%**	**14.0**	**0.0**	**B**
EB	Left Turn	100	93	93.0%	28.5	0.0	C
	Through	570	577	101.2%	12.0	0.0	B
	Right Turn	50	50	100.0%	8.5	0.0	A
	Subtotal	**720**	**720**	**100.0%**	**13.9**	**0.0**	**B**
WB	Left Turn	40	41	102.5%	33.3	0.0	C
	Through	570	569	99.8%	17.6	0.0	B
	Right Turn	80	84	105.0%	10.1	0.0	B
	Subtotal	**690**	**694**	**100.6%**	**17.6**	**0.0**	**B**
Total		**1,930**	**1,937**	**100.4%**	**15.5**	**0.0**	**B**

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	140	142	101.4%	67.8	0.0	E
	Through	600	599	99.8%	72.2	0.0	E
	Right Turn	180	181	100.6%	24.8	0.0	C
	Subtotal	**920**	**922**	**100.2%**	**62.2**	**0.0**	**E**
SB	Left Turn	330	325	98.5%	99.1	0.0	F
	Through	460	458	99.6%	92.6	0.0	F
	Right Turn	80	80	100.0%	87.0	0.0	F
	Subtotal	**870**	**863**	**99.2%**	**94.5**	**0.0**	**F**
EB	Left Turn	70	70	100.0%	158.9	0.0	F
	Through	480	486	101.3%	82.6	0.0	F
	Right Turn	80	80	100.0%	75.3	0.0	E
	Subtotal	**630**	**636**	**101.0%**	**90.1**	**0.0**	**F**
WB	Left Turn	140	139	99.3%	95.2	0.0	F
	Through	400	399	99.8%	64.5	0.0	E
	Right Turn	410	413	100.7%	19.9	0.0	B
	Subtotal	**950**	**951**	**100.1%**	**49.6**	**0.0**	**D**
Total		**3,370**	**3,372**	**100.1%**	**72.2**	**0.0**	**E**

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	150	157	104.7%	38.9	0.0	D
	Through	190	188	98.9%	29.5	0.0	C
	Right Turn	200	204	102.0%	11.0	0.0	B
	Subtotal	**540**	**549**	**101.7%**	**25.3**	**0.0**	**C**
SB	Left Turn	90	88	97.8%	43.5	0.0	D
	Through	140	143	102.1%	30.6	0.0	C
	Right Turn	100	102	102.0%	11.5	0.0	B
	Subtotal	**330**	**333**	**100.9%**	**28.2**	**0.0**	**C**
EB	Left Turn	100	96	96.0%	38.7	0.0	D
	Through	580	576	99.3%	24.9	0.0	C
	Right Turn	190	193	101.6%	18.8	0.0	B
	Subtotal	**870**	**865**	**99.4%**	**25.1**	**0.0**	**C**
WB	Left Turn	130	129	99.2%	41.2	0.0	D
	Through	640	648	101.3%	23.2	0.0	C
	Right Turn	90	91	101.1%	17.8	0.0	B
	Subtotal	**860**	**868**	**100.9%**	**25.3**	**0.0**	**C**
Total		**2,600**	**2,615**	**100.6%**	**25.6**	**0.0**	**C**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	60	56	93.3%	55.1	0.0	E
	Through	920	929	101.0%	43.6	0.0	D
	Right Turn	200	198	99.0%	15.4	0.0	B
	Subtotal	**1,180**	**1,183**	**100.3%**	**39.4**	**0.0**	**D**
SB	Left Turn	210	208	99.0%	57.9	0.0	E
	Through	930	926	99.6%	39.0	0.0	D
	Right Turn	120	127	105.8%	35.5	0.0	D
	Subtotal	**1,260**	**1,261**	**100.1%**	**41.8**	**0.0**	**D**
EB	Left Turn	130	130	100.0%	55.1	0.0	E
	Through	400	399	99.8%	46.4	0.0	D
	Right Turn	120	120	100.0%	35.2	0.0	D
	Subtotal	**650**	**649**	**99.8%**	**46.1**	**0.0**	**D**
WB	Left Turn	90	91	101.1%	67.3	0.0	E
	Through	100	104	104.0%	38.6	0.0	D
	Right Turn	140	136	97.1%	13.4	0.0	B
	Subtotal	**330**	**331**	**100.3%**	**36.1**	**0.0**	**D**
Total		**3,420**	**3,424**	**100.1%**	**41.2**	**0.0**	**D**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Volume (vehicles)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	29	96.7%	25.7	0.0	C
	Through	610	603	98.9%	10.4	0.0	B
	Right Turn	70	66	94.3%	5.0	0.0	A
	Subtotal	**710**	**698**	**98.3%**	**10.5**	**0.0**	**B**
SB	Left Turn	50	46	92.0%	23.5	0.0	C
	Through	480	474	98.8%	9.2	0.0	A
	Right Turn	20	20	100.0%	3.7	0.0	A
	Subtotal	**550**	**540**	**98.2%**	**10.2**	**0.0**	**B**
EB	Left Turn	20	20	100.0%	25.0	0.0	C
	Through	20	19	95.0%	28.0	0.0	C
	Right Turn	50	51	102.0%	4.0	0.0	A
	Subtotal	**90**	**90**	**100.0%**	**13.7**	**0.0**	**B**
WB	Left Turn	80	82	102.5%	23.3	0.0	C
	Through	20	20	100.0%	22.9	0.0	C
	Right Turn	30	32	106.7%	6.5	0.0	A
	Subtotal	**130**	**134**	**103.1%**	**19.2**	**0.0**	**B**
Total		**1,480**	**1,462**	**98.8%**	**11.4**	**0.0**	**B**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 24 **Oakdale Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	20	100.0%	28.6	0.0	C
	Through	550	554	100.7%	19.9	0.0	B
	Right Turn	330	325	98.5%	11.1	0.0	B
	Subtotal	**900**	**899**	**99.9%**	**16.9**	**0.0**	**B**
SB	Left Turn	120	123	102.5%	28.2	0.0	C
	Through	630	620	98.4%	20.4	0.0	C
	Right Turn	520	514	98.8%	13.4	0.0	B
	Subtotal	**1,270**	**1,257**	**99.0%**	**18.3**	**0.0**	**B**
EB	Left Turn	780	779	99.9%	25.4	0.0	C
	Through						
	Right Turn	190	192	101.1%	30.6	0.0	C
	Subtotal	**970**	**971**	**100.1%**	**26.4**	**0.0**	**C**
WB	Left Turn	280	281	100.4%	16.4	0.0	B
	Through						
	Right Turn	180	174	96.7%	26.8	0.0	C
	Subtotal	**460**	**455**	**98.9%**	**20.4**	**0.0**	**C**
Total		**3,600**	**3,582**	**99.5%**	**20.4**	**0.0**	**C**

Intersection 25 **Roselle Ave/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	170	173	101.8%	19.1	0.0	B
	Through	560	554	98.9%	13.3	0.0	B
	Right Turn	270	272	100.7%	7.5	0.0	A
	Subtotal	**1,000**	**999**	**99.9%**	**12.7**	**0.0**	**B**
SB	Left Turn	100	100	100.0%	25.9	0.0	C
	Through	660	647	98.0%	18.7	0.0	B
	Right Turn	50	46	92.0%	6.7	0.0	A
	Subtotal	**810**	**793**	**97.9%**	**18.9**	**0.0**	**B**
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		**1,810**	**1,792**	**99.0%**	**15.5**	**0.0**	**B**

Intersection 26 **Crane Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	Does Not Exist in this Scenario					
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total							

Intersection 27 **Albers Road/NCC** **Signal**

		Volume (vehicles)			Total Delay (sec/veh)		
Direction	**Movement**	**Demand**	**Served**	**% Served**	**Average**	**Std. Dev.**	**LOS**
NB	Left Turn	20	19	95.0%	46.5	0.0	D
	Through	440	438	99.5%	38.1	0.0	D
	Right Turn	210	208	99.0%	12.0	0.0	B
	Subtotal	**670**	**665**	**99.3%**	**30.2**	**0.0**	**C**
SB	Left Turn	20	21	105.0%	50.5	0.0	D
	Through	350	349	99.7%	32.9	0.0	C
	Right Turn	770	771	100.1%	16.9	0.0	B
	Subtotal	**1,140**	**1,141**	**100.1%**	**22.4**	**0.0**	**C**
EB	Left Turn	720	719	99.9%	39.3	0.0	D
	Through	400	412	103.0%	22.2	0.0	C
	Right Turn	20	21	105.0%	3.9	0.0	A
	Subtotal	**1,140**	**1,152**	**101.1%**	**32.5**	**0.0**	**C**
WB	Left Turn	180	178	98.9%	32.8	0.0	C
	Through	360	367	101.9%	32.4	0.0	C
	Right Turn						
	Subtotal	**540**	**545**	**100.9%**	**32.5**	**0.0**	**C**
Total		**3,490**	**3,503**	**100.4%**	**28.8**	**0.0**	**C**

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **PM Peak Hour**

Intersection 1 **Carver Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	330	154	316	**356**	0	0
	Through	2,428	250	521	609	8	0
	Right Turn	2,428	250	521	609	8	0
SB	Left Turn	300	117	209	240	0	0
	Through	2,373	76	152	174	0	0
	Right Turn	2,373	76	152	174	0	0
EB	Left Turn	530	67	152	203	0	0
	Through	3,295	317	502	571	4	0
	Right Turn	410	100	273	**437**	0	0
WB	Left Turn	580	115	210	238	0	0
	Through	2,518	288	424	473	0	0
	Right Turn	530	29	63	79	0	0

Intersection 2 **Tully Road/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	923	327	619	476	3	0
	Through	923	71	182	198	0	0
	Right Turn	850	5	107	146	0	0
SB	Left Turn	550	240	528	410	9	0
	Through	3,946	167	507	312	0	0
	Right Turn	3,946	80	180	200	0	0
EB	Left Turn	715	26	68	89	0	0
	Through	2,518	356	737	1000	11	0
	Right Turn	355	146	**381**	**385**	0	0
WB	Left Turn	920	175	265	291	0	0
	Through	2,590	134	224	276	0	0
	Right Turn	750	15	44	58	0	0

Intersection 3 **McHenry Avenue/Ladd Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	185	100	**218**	**245**	2	0
	Through	464	219	338	404	16	0
	Right Turn	464	205	317	358	0	0
SB	Left Turn	290	**349**	**351**	**350**	91	0
	Through	5,159	2354	4042	3919	7	0
	Right Turn	5,159	2112	4143	3885	0	0
EB	Left Turn	250	**296**	**364**	**310**	56	0
	Through	5,459	1936	3549	3240	30	0
	Right Turn	5,459	1936	3549	3240	30	0
WB	Left Turn	90	30	90	**139**	1	0
	Through	491	466	**592**	**507**	66	33
	Right Turn	160	121	**275**	**220**	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **PM Peak Hour**

Intersection 4 **McHenry Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through	586	119	197	232	0	0
	Right Turn						
SB	Left Turn						
	Through	464	120	255	289	0	0
	Right Turn						
EB	Left Turn						
	Through						
	Right Turn						
WB	Left Turn	672	57	107	125	0	0
	Through						
	Right Turn	672	57	107	125	0	0

Intersection 5 **SR 108/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn	672	62	119	151	0	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	491	377	**566**	**502**	0	2
	Right Turn	491	377	**566**	**502**	0	2
WB	Left Turn	530	138	459	450	0	0
	Through	3,699	369	946	828	14	0
	Right Turn						

Intersection 6 **McHenry Avenue/Kiernan Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	700	93	176	209	0	0
	Through	737	82	140	161	0	0
	Right Turn	737	94	161	192	0	0
SB	Left Turn	550	91	166	207	0	0
	Through	1,038	97	161	190	0	0
	Right Turn	650	63	121	149	0	0
EB	Left Turn	300	72	129	194	0	0
	Through						
	Right Turn	1,111	162	259	309	0	0
WB	Left Turn	300	0	0	0	0	0
	Through						
	Right Turn	1,079	0	0	0	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **PM Peak Hour**

Intersection 7 **McHenry Avenue/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	225	**283**	**298**	**285**	58	0
	Through	3,853	1650	2829	2721	55	0
	Right Turn	200	**254**	**298**	**260**	46	0
SB	Left Turn	500	457	**669**	**619**	14	0
	Through	1,480	524	1017	901	3	0
	Right Turn	1,480	465	693	729	0	0
EB	Left Turn	350	**385**	**518**	**410**	0	0
	Through	4,930	4320	**5978**	**4982**	70	59
	Right Turn	350	**402**	**475**	**410**	1	0
WB	Left Turn	300	**761**	**362**	**360**	90	0
	Through	5,881	3091	4533	3433	0	68
	Right Turn	350	57	160	199	0	0

Intersection 8 **Coffee Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	155	263	292	0	0
	Through	902	33	79	98	0	0
	Right Turn	600	113	209	231	0	0
SB	Left Turn	650	36	88	131	0	0
	Through	952	64	114	136	0	0
	Right Turn	650	80	155	197	0	0
EB	Left Turn	500	167	273	296	0	0
	Through						
	Right Turn	860	138	227	256	0	0
WB	Left Turn	500	75	126	144	0	0
	Through						
	Right Turn	901	26	66	87	0	0

Intersection 9 **Coffee Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	195	282	**310**	0	0
	Through	1,262	199	304	376	1	0
	Right Turn	1,262	203	308	358	0	0
SB	Left Turn	300	116	196	217	0	0
	Through	1,262	140	406	494	0	0
	Right Turn	300	234	**381**	**357**	7	0
EB	Left Turn	300	**308**	**424**	**360**	4	0
	Through	1,409	718	1166	1155	37	1
	Right Turn	300	158	**360**	**358**	0	0
WB	Left Turn	300	123	246	**330**	0	0
	Through	3,308	274	384	437	4	0
	Right Turn	3,308	228	332	371	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **PM Peak Hour**

Intersection 10 **Oakdale Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	152	**244**	**253**	5	0
	Through	2,570	117	235	327	0	0
	Right Turn	2,570	225	357	398	0	0
SB	Left Turn	150	69	137	**160**	3	0
	Through	2,170	77	154	197	14	0
	Right Turn	75	34	**86**	**121**	0	0
EB	Left Turn	525	91	163	198	0	0
	Through	2,722	228	341	365	0	0
	Right Turn	2,722	245	366	407	0	0
WB	Left Turn	625	163	241	263	0	0
	Through	3,227	94	167	194	0	0
	Right Turn	3,227	113	188	213	0	0

Intersection 11 **Oakdale Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	155	258	**303**	0	0
	Through	1,181	173	261	289	0	0
	Right Turn	1,181	129	208	251	0	0
SB	Left Turn	315	83	217	314	0	0
	Through	3,988	238	463	502	5	0
	Right Turn	3,988	288	489	509	0	0
EB	Left Turn	410	59	120	160	0	0
	Through	1,731	16	46	61	0	0
	Right Turn	1,731	60	115	161	0	0
WB	Left Turn	1,878	185	278	320	0	0
	Through	1,878	13	39	56	0	0
	Right Turn						

Intersection 12 **Oakdale Road/Claratina Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	2,052	233	327	374	0	0
	Through	2,052	175	271	312	0	0
	Right Turn	2,052	171	270	296	0	0
SB	Left Turn	300	44	133	231	0	0
	Through	512	255	366	415	4	0
	Right Turn	300	155	282	**345**	1	0
EB	Left Turn	1,375	204	288	317	1	0
	Through	1,375	260	368	450	1	0
	Right Turn	300	15	135	216	0	0
WB	Left Turn	300	55	112	141	0	0
	Through	1,274	203	275	290	0	0
	Right Turn	300	20	51	71	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **PM Peak Hour**

Intersection 13 **1st Street/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	139	**343**	**310**	0	0
	Through	1,227	619	1086	1043	57	2
	Right Turn	1,227	619	1086	1043	57	2
SB	Left Turn	175	**215**	**278**	**235**	35	0
	Through	1,669	636	1347	1254	39	1
	Right Turn	100	**106**	**191**	**160**	2	0
EB	Left Turn	3,220	318	692	622	0	0
	Through	3,220	534	1060	871	0	0
	Right Turn	3,220	534	1060	871	0	0
WB	Left Turn	75	66	**136**	**134**	13	0
	Through	3,356	839	1848	1305	69	0
	Right Turn	150	**154**	**275**	**210**	2	0

Intersection 14 **Roselle Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	300	143	260	**313**	1	0
	Through	1,058	196	322	354	1	0
	Right Turn	1,058	62	213	271	0	0
SB	Left Turn	300	35	82	111	0	0
	Through	414	114	185	225	0	0
	Right Turn	414	90	161	195	0	0
EB	Left Turn	300	18	51	67	0	0
	Through	1,163	115	203	244	0	0
	Right Turn	300	75	144	214	0	0
WB	Left Turn	300	99	168	187	0	0
	Through	1,019	28	73	96	0	0
	Right Turn	300	8	28	41	0	0

Intersection 15 **Claus Road/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,576	57	109	144	0	0
	Through						
	Right Turn	150	85	149	**183**	1	0
SB	Left Turn						
	Through						
	Right Turn						
EB	Left Turn						
	Through	826	165	254	272	0	0
	Right Turn	300	169	255	280	0	0
WB	Left Turn	400	169	268	312	0	0
	Through	873	38	83	106	0	0
	Right Turn						

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **PM Peak Hour**

Intersection 16 **Claus Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	726	131	199	230	0	0
	Through	726	104	175	194	0	0
	Right Turn	840	61	117	136	0	0
SB	Left Turn	520	33	70	85	0	0
	Through	1,218	151	236	261	0	0
	Right Turn	720	156	286	356	0	0
EB	Left Turn	800	199	291	309	0	0
	Through	1,066	220	308	334	0	0
	Right Turn	1,000	60	112	149	0	0
WB	Left Turn	1,606	147	216	246	0	0
	Through	1,606	202	298	340	0	0
	Right Turn	850	9	30	48	0	0

Intersection 17 **Crane Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn						
	Through						
	Right Turn						
SB	Left Turn	826	72	129	151	0	0
	Through						
	Right Turn	300	79	141	170	0	0
EB	Left Turn	300	167	273	**304**	1	0
	Through	2,884	44	127	206	0	0
	Right Turn						
WB	Left Turn						
	Through	5,348	176	292	346	0	0
	Right Turn	5,348	176	292	346	0	0

Intersection 18 **Bentley Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	84	161	194	1	0
	Through	1,462	57	122	152	0	0
	Right Turn	300	27	67	89	0	0
SB	Left Turn	150	18	53	76	0	0
	Through	1,179	88	164	184	2	0
	Right Turn	300	128	224	267	0	0
EB	Left Turn						
	Through	7,926	208	325	370	0	0
	Right Turn						
WB	Left Turn	770	66	128	162	0	0
	Through	2,369	224	348	396	0	0
	Right Turn	720	7	27	46	0	0

Intersection 19 **Oak Avenue/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	250	58	106	130	0	0
	Through	1,264	59	111	137	0	0
	Right Turn	1,264	59	111	137	0	0
SB	Left Turn	100	48	91	**109**	1	0
	Through	1,626	32	71	99	1	0
	Right Turn	75	42	75	**96**	1	0
EB	Left Turn	250	52	102	131	0	0
	Through	1,565	77	149	190	0	0
	Right Turn	1,565	93	166	205	0	0
WB	Left Turn	250	32	71	90	0	0
	Through	2,560	134	214	256	0	0
	Right Turn	300	95	178	222	0	0

Intersection 20 **SR 120/SR 108** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	850	387	680	608	1	0
	Through	1,934	414	798	716	23	0
	Right Turn	300	182	**415**	**360**	0	0
SB	Left Turn	5,862	530	872	845	0	0
	Through	5,862	530	872	845	0	0
	Right Turn	5,862	491	839	819	0	0
EB	Left Turn	50	**86**	**134**	**110**	62	0
	Through	2,671	529	1167	1205	55	0
	Right Turn	200	**238**	**299**	**260**	24	0
WB	Left Turn	300	207	**398**	**360**	2	0
	Through	2,545	381	679	725	21	0
	Right Turn	2,545	157	301	428	0	0

Intersection 21 **SR 108/Maag Avenue** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	75	136	188	0	0
	Through	1,873	121	228	278	33	0
	Right Turn	50	**82**	**132**	**110**	9	0
SB	Left Turn	100	65	**124**	**154**	5	0
	Through	2,914	91	182	269	8	0
	Right Turn	100	51	**111**	**152**	1	0
EB	Left Turn	250	61	124	170	0	0
	Through	1,994	162	263	313	1	0
	Right Turn	1,994	175	276	326	0	0
WB	Left Turn	200	84	155	**204**	0	0
	Through	2,690	141	235	269	2	0
	Right Turn	2,690	166	270	295	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **PM Peak Hour**

Intersection 22 **Albers Road/Patterson Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	56	137	173	0	0
	Through	1,386	284	462	472	7	0
	Right Turn	300	106	285	**322**	0	0
SB	Left Turn	400	175	311	362	0	0
	Through	2,186	271	434	499	1	0
	Right Turn	2,186	313	473	528	0	0
EB	Left Turn	225	120	216	**268**	0	0
	Through	5,602	172	290	362	3	0
	Right Turn	225	169	**261**	**282**	2	0
WB	Left Turn	225	85	175	215	1	0
	Through	2,174	43	96	131	0	0
	Right Turn	225	44	100	147	0	0

Intersection 23 **Albers Road/Claribel Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	325	24	62	79	0	0
	Through	1,326	88	159	187	0	0
	Right Turn	1,326	62	131	170	0	0
SB	Left Turn	350	38	77	92	0	0
	Through	1,404	78	140	167	0	0
	Right Turn	350	8	32	43	0	0
EB	Left Turn	225	14	39	57	0	0
	Through	1,997	13	41	58	0	0
	Right Turn	225	18	40	50	0	0
WB	Left Turn	175	51	100	126	0	0
	Through	2,609	30	70	89	0	0
	Right Turn	2,609	30	70	89	0	0

Intersection 24 **Oakdale Rd & NCC SPUI** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	600	15	43	57	0	0
	Through	1,357	84	147	161	0	0
	Right Turn	700	89	153	179	0	0
SB	Left Turn	600	66	127	162	0	0
	Through	1,181	107	178	207	0	0
	Right Turn	600	124	215	256	0	0
EB	Left Turn	500	196	284	313	0	0
	Through						
	Right Turn	500	114	199	240	0	0
WB	Left Turn	500	61	104	125	0	0
	Through						
	Right Turn	350	99	171	212	0	0

SimTraffic Post-Processor | **North County Corridor**
Average Results from 10 Runs | **2042 Alternative 2B**
Queue Length | **PM Peak Hour**

Intersection 25 **NCC SPUI & Roselle** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	400	68	135	171	0	0
	Through	671	105	199	236	0	0
	Right Turn	400	43	103	135	0	0
SB	Left Turn	550	50	108	145	0	0
	Through	1,058	100	185	211	0	0
	Right Turn	550	5	24	40	0	0
EB	Left Turn	500	30	66	86	0	0
	Through						
	Right Turn	1,221	161	264	313	0	0
WB	Left Turn	500	35	68	86	0	0
	Through						
	Right Turn	1,160	87	157	190	0	0

Intersection 27 **NCC & Albers Rd** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	200	25	104	192	0	0
	Through	2,755	256	472	556	19	0
	Right Turn	300	96	284	**361**	0	0
SB	Left Turn	200	16	77	122	0	0
	Through	1,386	155	289	321	5	0
	Right Turn	1,386	0	9	9	0	0
EB	Left Turn	920	209	332	373	0	0
	Through	1,146	92	164	190	0	0
	Right Turn	580	10	36	52	0	0
WB	Left Turn	720	62	105	132	0	0
	Through	2,966	97	167	197	0	0
	Right Turn	580	16	49	66	0	0

Intersection 28 **NCC & SMITH** **Roundabout**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	95th Queue (ft) Average	Maximum Queue (ft) Average	Block Time % Pocket	Block Time % Upstream
NB	Left Turn	1,307	30	68	95	0	0
	Through	1,307	30	68	95	0	0
	Right Turn	1,307	30	68	95	0	0
SB	Left Turn	1,066	39	85	113	0	0
	Through	1,066	39	85	113	0	0
	Right Turn	630	48	90	114	0	0
EB	Left Turn	870	81	148	179	0	0
	Through	5,348	40	89	112	0	0
	Right Turn	670	3	14	25	0	0
WB	Left Turn	650	17	48	64	0	0
	Through	4,038	59	122	143	0	0
	Right Turn	650	9	33	51	0	0

MOVEMENT SUMMARY

Site: 28. NCC & Stearns Rd - Alt 1A AM_Year 2042

28. NCC & Stearns Road
Alt 1A - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Sterns Road											
3	L2	53	13.0	0.083	6.3	LOS A	0.3	8.8	0.64	0.58	29.7
8	T1	11	13.0	0.083	6.0	LOS A	0.3	8.8	0.61	0.55	27.1
18	R2	53	13.0	0.083	5.8	LOS A	0.3	8.2	0.60	0.54	29.9
Approach		116	13.0	0.083	6.0	LOS A	0.3	8.8	0.62	0.56	29.6
East: NCC											
1	L2	53	13.0	0.293	6.7	LOS A	1.4	39.1	0.58	0.48	30.3
6	T1	505	13.0	0.293	6.6	LOS A	1.4	39.1	0.55	0.46	31.1
16	R2	21	13.0	0.293	6.5	LOS A	1.3	36.2	0.53	0.44	28.4
Approach		579	13.0	0.293	6.6	LOS A	1.4	39.1	0.55	0.46	30.9
North: Sterns Road											
7	L2	21	13.0	0.043	5.4	LOS A	0.2	4.6	0.60	0.50	30.8
4	T1	11	13.0	0.043	5.4	LOS A	0.2	4.6	0.60	0.50	26.7
14	R2	305	13.0	0.391	9.5	LOS A	1.8	49.1	0.68	0.70	28.5
Approach		337	13.0	0.391	9.1	LOS A	1.8	49.1	0.67	0.68	28.6
West: NCC											
5	L2	295	13.0	0.269	5.1	LOS A	1.4	39.5	0.28	0.13	29.3
2	T1	368	13.0	0.269	5.0	LOS A	1.4	39.5	0.26	0.12	31.6
12	R2	53	13.0	0.269	5.0	LOS A	1.3	35.8	0.25	0.12	28.9
Approach		716	13.0	0.269	5.1	LOS A	1.4	39.5	0.27	0.13	30.4
All Vehicles		1747	13.0	0.391	6.4	LOS A	1.8	49.1	0.46	0.37	30.1

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 28. NCC & Stearns Rd - Alt 1A PM_Year 2042

28. NCC & Stearns Road
Alt 1A - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Sterns Road											
3	L2	53	10.0	0.119	9.5	LOS A	0.4	11.8	0.72	0.72	28.6
8	T1	11	10.0	0.119	8.7	LOS A	0.4	11.8	0.69	0.69	26.4
18	R2	53	10.0	0.119	8.5	LOS A	0.4	11.2	0.68	0.68	28.9
Approach		116	10.0	0.119	9.0	LOS A	0.4	11.8	0.70	0.70	28.5
East: NCC											
1	L2	53	10.0	0.278	7.3	LOS A	1.3	34.9	0.64	0.60	30.0
6	T1	411	10.0	0.278	7.1	LOS A	1.3	34.9	0.62	0.57	30.9
16	R2	21	10.0	0.278	7.0	LOS A	1.2	32.6	0.60	0.56	28.2
Approach		484	10.0	0.278	7.1	LOS A	1.3	34.9	0.62	0.58	30.6
North: Sterns Road											
7	L2	21	10.0	0.037	4.6	LOS A	0.2	4.1	0.56	0.43	31.1
4	T1	11	10.0	0.037	4.6	LOS A	0.2	4.1	0.56	0.43	27.0
14	R2	411	10.0	0.459	9.7	LOS A	2.5	66.4	0.68	0.70	28.4
Approach		442	10.0	0.459	9.3	LOS A	2.5	66.4	0.67	0.68	28.5
West: NCC											
5	L2	453	10.0	0.404	6.4	LOS A	2.6	69.9	0.32	0.16	28.9
2	T1	600	10.0	0.404	6.4	LOS A	2.6	69.9	0.30	0.15	31.0
12	R2	53	10.0	0.404	6.4	LOS A	2.4	63.5	0.29	0.14	28.4
Approach		1105	10.0	0.404	6.4	LOS A	2.6	69.9	0.31	0.15	30.0
All Vehicles		2147	10.0	0.459	7.3	LOS A	2.6	69.9	0.47	0.39	29.7

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR 120/108 - Alt 1A AM_Year 2042

29. NCC & SR 120/108
Alt 1A - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	21	13.0	0.030	3.7	LOS A	0.1	3.1	0.42	0.26	31.4
8	T1	11	13.0	0.030	3.7	LOS A	0.1	3.1	0.42	0.26	27.3
18	R2	411	13.0	0.277	0.0	LOS A	0.0	0.0	0.00	0.00	30.6
Approach		442	13.0	0.277	0.3	LOS A	0.1	3.1	0.03	0.02	30.5
East: SR 120/108											
1	L2	505	13.0	0.430	7.5	LOS A	2.5	69.2	0.28	0.13	29.2
6	T1	505	13.0	0.430	7.5	LOS A	2.5	69.2	0.28	0.13	31.0
16	R2	11	13.0	0.430	7.5	LOS A	2.5	69.2	0.28	0.13	28.1
Approach		1021	13.0	0.430	7.5	LOS A	2.5	69.2	0.28	0.13	30.0
North: NCC											
7	L2	21	13.0	0.331	12.2	LOS B	1.3	35.0	0.73	0.77	29.3
4	T1	32	13.0	0.331	12.2	LOS B	1.3	35.0	0.73	0.77	28.6
14	R2	116	13.0	0.331	12.2	LOS B	1.3	35.0	0.73	0.77	27.5
Approach		168	13.0	0.331	12.2	LOS B	1.3	35.0	0.73	0.77	27.9
West: SR 120/108											
5	L2	32	13.0	0.041	5.1	LOS A	0.2	4.4	0.58	0.46	28.9
2	T1	263	13.0	0.371	8.8	LOS A	1.6	45.4	0.65	0.65	30.4
12	R2	42	13.0	0.371	8.8	LOS A	1.6	45.4	0.65	0.65	29.1
Approach		337	13.0	0.371	8.4	LOS A	1.6	45.4	0.65	0.64	30.1
All Vehicles		1968	13.0	0.430	6.4	LOS A	2.5	69.2	0.32	0.25	30.0

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR 120/108 - Alt 1A PM_Year 2042

29. NCC & SR120/108
Alt 1A - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	32	10.0	0.087	5.1	LOS A	0.3	8.9	0.55	0.47	31.6
8	T1	42	10.0	0.087	5.1	LOS A	0.3	8.9	0.55	0.47	27.3
18	R2	600	10.0	0.394	0.1	LOS A	0.0	0.0	0.00	0.00	30.6
Approach		674	10.0	0.394	0.6	LOS A	0.3	8.9	0.06	0.05	30.4
East: SR 120/108											
1	L2	442	10.0	0.416	7.9	LOS A	2.3	61.3	0.47	0.33	29.1
6	T1	389	10.0	0.386	7.4	LOS A	2.0	55.1	0.46	0.32	31.0
16	R2	21	10.0	0.386	7.4	LOS A	2.0	55.1	0.46	0.32	28.1
Approach		853	10.0	0.416	7.7	LOS A	2.3	61.3	0.46	0.33	29.9
North: NCC											
7	L2	21	10.0	0.133	7.2	LOS A	0.5	13.1	0.65	0.65	31.1
4	T1	21	10.0	0.133	7.2	LOS A	0.5	13.1	0.65	0.65	30.3
14	R2	42	10.0	0.133	7.2	LOS A	0.5	13.1	0.65	0.65	29.0
Approach		84	10.0	0.133	7.2	LOS A	0.5	13.1	0.65	0.65	29.8
West: SR 120/108											
5	L2	116	10.0	0.132	5.4	LOS A	0.6	15.4	0.58	0.49	28.8
2	T1	432	10.0	0.490	10.0	LOS B	2.8	75.5	0.68	0.70	30.0
12	R2	21	10.0	0.490	10.0	LOS B	2.8	75.5	0.68	0.70	28.7
Approach		568	10.0	0.490	9.1	LOS A	2.8	75.5	0.66	0.66	29.7
All Vehicles		2179	10.0	0.490	5.8	LOS A	2.8	75.5	0.40	0.34	30.0

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 40. NCC & Minor Rd - Alt 1B AM_2042

40. NCC & Minor Road
Alt 1B - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Minor Road											
3	L2	21	13.0	0.056	4.3	LOS A	0.2	5.8	0.49	0.36	31.4
8	T1	11	13.0	0.056	4.3	LOS A	0.2	5.8	0.49	0.36	27.4
18	R2	21	13.0	0.056	4.3	LOS A	0.2	5.8	0.49	0.36	29.6
Approach		53	13.0	0.056	4.3	LOS A	0.2	5.8	0.49	0.36	29.8
East: NCC											
1	L2	21	13.0	0.169	4.0	LOS A	0.8	23.2	0.20	0.08	31.3
6	T1	421	13.0	0.169	4.0	LOS A	0.8	23.2	0.19	0.07	32.1
16	R2	21	13.0	0.169	4.0	LOS A	0.8	21.0	0.18	0.07	29.1
Approach		463	13.0	0.169	4.0	LOS A	0.8	23.2	0.19	0.07	31.9
North: Minor Road											
7	L2	21	13.0	0.058	4.5	LOS A	0.2	6.0	0.51	0.39	31.3
4	T1	11	13.0	0.058	4.5	LOS A	0.2	6.0	0.51	0.39	27.3
14	R2	21	13.0	0.058	4.5	LOS A	0.2	6.0	0.51	0.39	29.5
Approach		53	13.0	0.058	4.5	LOS A	0.2	6.0	0.51	0.39	29.7
West: NCC											
5	L2	21	13.0	0.153	3.9	LOS A	0.8	20.8	0.20	0.07	31.3
2	T1	379	13.0	0.153	3.9	LOS A	0.8	20.8	0.19	0.07	32.1
12	R2	21	13.0	0.153	3.9	LOS A	0.7	18.8	0.18	0.07	29.2
Approach		421	13.0	0.153	3.9	LOS A	0.8	20.8	0.19	0.07	31.9
All Vehicles		989	13.0	0.169	4.0	LOS A	0.8	23.2	0.22	0.10	31.6

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 40. NCC & Minor Rd - Alt 1B PM_2042

40. NCC & Minor Road
Alt 1B - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Minor Road											
3	L2	21	10.0	0.061	4.8	LOS A	0.2	6.2	0.54	0.44	31.2
8	T1	11	10.0	0.061	4.8	LOS A	0.2	6.2	0.54	0.44	27.2
18	R2	21	10.0	0.061	4.8	LOS A	0.2	6.2	0.54	0.44	29.4
Approach		53	10.0	0.061	4.8	LOS A	0.2	6.2	0.54	0.44	29.6
East: NCC											
1	L2	21	10.0	0.149	3.8	LOS A	0.8	20.3	0.19	0.07	31.3
6	T1	379	10.0	0.149	3.7	LOS A	0.8	20.3	0.18	0.07	32.2
16	R2	21	10.0	0.149	3.7	LOS A	0.7	18.3	0.17	0.06	29.2
Approach		421	10.0	0.149	3.7	LOS A	0.8	20.3	0.18	0.07	32.0
North: Minor Road											
7	L2	21	10.0	0.054	4.1	LOS A	0.2	5.6	0.48	0.35	31.5
4	T1	11	10.0	0.054	4.1	LOS A	0.2	5.6	0.48	0.35	27.4
14	R2	21	10.0	0.054	4.1	LOS A	0.2	5.6	0.48	0.35	29.6
Approach		53	10.0	0.054	4.1	LOS A	0.2	5.6	0.48	0.35	29.9
West: NCC											
5	L2	21	10.0	0.198	4.2	LOS A	1.0	28.3	0.20	0.08	31.2
2	T1	516	10.0	0.198	4.2	LOS A	1.0	28.3	0.19	0.07	32.0
12	R2	21	10.0	0.198	4.2	LOS A	0.9	25.5	0.18	0.07	29.1
Approach		558	10.0	0.198	4.2	LOS A	1.0	28.3	0.19	0.07	31.9
All Vehicles		1084	10.0	0.198	4.0	LOS A	1.0	28.3	0.22	0.10	31.7

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR120/108- Alt 1B AM_2042

29. NCC & SR 120/108
Alt 1B - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	42	13.0	0.035	3.3	LOS A	0.1	3.8	0.33	0.17	30.3
18	R2	379	13.0	0.256	0.0	LOS A	0.0	0.0	0.00	0.00	30.4
Approach		421	13.0	0.256	0.4	LOS A	0.1	3.8	0.03	0.02	30.4
East: SR 120/108											
1	L2	379	13.0	0.312	5.9	LOS A	1.6	44.1	0.20	0.08	29.4
6	T1	211	13.0	0.173	4.5	LOS A	0.8	21.2	0.17	0.06	32.0
Approach		589	13.0	0.312	5.4	LOS A	1.6	44.1	0.19	0.07	30.2
West: SR 120/108											
5u	U	1	13.0	0.001	3.8	LOS A	0.0	0.1	0.49	0.24	30.5
2	T1	189	13.0	0.277	6.4	LOS A	1.2	33.6	0.54	0.45	31.0
12	R2	84	13.0	0.277	6.4	LOS A	1.2	33.6	0.54	0.45	29.8
Approach		275	13.0	0.277	6.4	LOS A	1.2	33.6	0.54	0.45	30.6
All Vehicles		1285	13.0	0.312	4.0	LOS A	1.6	44.1	0.21	0.14	30.4

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR120/108- Alt 1B PM_2042

29. NCC & SR 120/108
Alt 1B - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	95	10.0	0.080	3.7	LOS A	0.3	8.8	0.37	0.23	30.2
18	R2	463	10.0	0.304	0.0	LOS A	0.0	0.0	0.00	0.00	30.4
Approach		558	10.0	0.304	0.7	LOS A	0.3	8.8	0.06	0.04	30.3
East: SR 120/108											
1	L2	379	10.0	0.322	6.1	LOS A	1.7	45.3	0.31	0.16	29.3
6	T1	232	10.0	0.197	4.8	LOS A	0.9	24.3	0.27	0.14	31.9
Approach		611	10.0	0.322	5.6	LOS A	1.7	45.3	0.29	0.15	30.2
West: SR 120/108											
5u	U	1	10.0	0.001	3.7	LOS A	0.0	0.1	0.48	0.23	30.5
2	T1	232	10.0	0.267	6.1	LOS A	1.2	32.6	0.53	0.44	31.2
12	R2	42	10.0	0.267	6.1	LOS A	1.2	32.6	0.53	0.44	30.0
Approach		275	10.0	0.267	6.1	LOS A	1.2	32.6	0.53	0.44	31.0
All Vehicles		1443	10.0	0.322	3.8	LOS A	1.7	45.3	0.25	0.16	30.4

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 28. NCC & Stearns Rd - Alt 2A AM_2042

28. NCC & Stearns Road
Alt 2A - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Sterns Road											
3	L2	53	13.0	0.088	6.7	LOS A	0.3	9.2	0.65	0.61	29.6
8	T1	11	13.0	0.088	6.3	LOS A	0.3	9.2	0.62	0.59	27.0
18	R2	53	13.0	0.088	6.2	LOS A	0.3	8.6	0.61	0.58	29.8
Approach		116	13.0	0.088	6.4	LOS A	0.3	9.2	0.63	0.59	29.4
East: NCC											
1	L2	53	13.0	0.285	7.0	LOS A	1.3	36.8	0.61	0.53	30.1
6	T1	453	13.0	0.285	6.9	LOS A	1.3	36.8	0.58	0.51	31.0
16	R2	21	13.0	0.285	6.7	LOS A	1.2	34.1	0.56	0.49	28.3
Approach		526	13.0	0.285	6.9	LOS A	1.3	36.8	0.58	0.51	30.8
North: Sterns Road											
7	L2	21	13.0	0.041	5.1	LOS A	0.2	4.4	0.58	0.46	30.9
4	T1	11	13.0	0.041	5.1	LOS A	0.2	4.4	0.58	0.46	26.8
14	R2	263	13.0	0.320	8.0	LOS A	1.4	37.3	0.63	0.62	29.0
Approach		295	13.0	0.320	7.7	LOS A	1.4	37.3	0.63	0.60	29.1
West: NCC											
5	L2	358	13.0	0.289	5.3	LOS A	1.6	43.2	0.29	0.14	29.0
2	T1	358	13.0	0.289	5.2	LOS A	1.6	43.2	0.26	0.13	31.7
12	R2	53	13.0	0.289	5.2	LOS A	1.4	39.2	0.26	0.12	28.8
Approach		768	13.0	0.289	5.3	LOS A	1.6	43.2	0.27	0.13	30.2
All Vehicles		1705	13.0	0.320	6.3	LOS A	1.6	43.2	0.45	0.36	30.1

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 28. NCC & Stearns Rd - Alt 2A PM_2042

28. NCC & Stearns Road
Alt 2A - PM Peak
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Sterns Road											
3	L2	53	10.0	0.111	8.8	LOS A	0.4	11.1	0.71	0.71	28.8
8	T1	11	10.0	0.111	8.1	LOS A	0.4	11.1	0.68	0.68	26.5
18	R2	53	10.0	0.111	7.9	LOS A	0.4	10.5	0.67	0.67	29.1
Approach		116	10.0	0.111	8.3	LOS A	0.4	11.1	0.69	0.69	28.7
East: NCC											
1	L2	53	10.0	0.252	6.7	LOS A	1.2	31.5	0.62	0.56	30.2
6	T1	379	10.0	0.252	6.6	LOS A	1.2	31.5	0.60	0.54	31.0
16	R2	21	10.0	0.252	6.5	LOS A	1.1	29.3	0.58	0.52	28.4
Approach		453	10.0	0.252	6.6	LOS A	1.2	31.5	0.60	0.54	30.8
North: Sterns Road											
7	L2	32	10.0	0.048	4.6	LOS A	0.2	5.3	0.55	0.42	30.9
4	T1	11	10.0	0.048	4.6	LOS A	0.2	5.3	0.55	0.42	26.8
14	R2	495	10.0	0.536	11.0	LOS B	3.3	89.5	0.71	0.75	28.0
Approach		537	10.0	0.536	10.5	LOS B	3.3	89.5	0.70	0.73	28.1
West: NCC											
5	L2	421	10.0	0.381	6.2	LOS A	2.3	63.3	0.33	0.17	29.0
2	T1	558	10.0	0.381	6.2	LOS A	2.3	63.3	0.31	0.16	31.1
12	R2	53	10.0	0.381	6.2	LOS A	2.1	57.5	0.30	0.15	28.5
Approach		1032	10.0	0.381	6.2	LOS A	2.3	63.3	0.32	0.16	30.0
All Vehicles		2137	10.0	0.536	7.5	LOS A	3.3	89.5	0.49	0.41	29.6

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR 120/108 - Alt 2A AM_2042

29. NCC & SR 120/108
Alt 2A - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	21	13.0	0.030	3.7	LOS A	0.1	3.1	0.43	0.27	31.4
8	T1	11	13.0	0.030	3.7	LOS A	0.1	3.1	0.43	0.27	27.2
18	R2	400	13.0	0.270	0.0	LOS A	0.0	0.0	0.00	0.00	30.6
Approach		432	13.0	0.270	0.3	LOS A	0.1	3.1	0.03	0.02	30.5
East: SR 120/108											
1	L2	463	13.0	0.430	7.5	LOS A	2.5	69.2	0.28	0.13	29.4
6	T1	547	13.0	0.430	7.5	LOS A	2.5	69.2	0.28	0.13	30.8
16	R2	11	13.0	0.430	7.5	LOS A	2.5	69.2	0.28	0.13	28.1
Approach		1021	13.0	0.430	7.5	LOS A	2.5	69.2	0.28	0.13	30.1
North: NCC											
7	L2	21	13.0	0.331	12.2	LOS B	1.3	35.0	0.73	0.77	29.3
4	T1	32	13.0	0.331	12.2	LOS B	1.3	35.0	0.73	0.77	28.6
14	R2	116	13.0	0.331	12.2	LOS B	1.3	35.0	0.73	0.77	27.5
Approach		168	13.0	0.331	12.2	LOS B	1.3	35.0	0.73	0.77	27.9
West: SR 120/108											
5	L2	32	13.0	0.039	4.8	LOS A	0.2	4.2	0.57	0.44	29.0
2	T1	274	13.0	0.355	8.3	LOS A	1.6	43.0	0.63	0.61	30.6
12	R2	32	13.0	0.355	8.3	LOS A	1.6	43.0	0.63	0.61	29.3
Approach		337	13.0	0.355	7.9	LOS A	1.6	43.0	0.63	0.59	30.3
All Vehicles		1958	13.0	0.430	6.4	LOS A	2.5	69.2	0.32	0.24	30.0

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR 120/108 - Alt 2A PM_2042

29. NCC & SR120/108
Alt 2A - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	32	10.0	0.090	5.3	LOS A	0.3	9.2	0.57	0.49	31.5
8	T1	42	10.0	0.090	5.3	LOS A	0.3	9.2	0.57	0.49	27.2
18	R2	568	10.0	0.373	0.1	LOS A	0.0	0.0	0.00	0.00	30.6
Approach		642	10.0	0.373	0.7	LOS A	0.3	9.2	0.07	0.06	30.3
East: SR 120/108											
1	L2	411	10.0	0.401	7.6	LOS A	2.2	58.1	0.46	0.33	29.2
6	T1	421	10.0	0.401	7.6	LOS A	2.2	58.1	0.46	0.33	30.8
16	R2	21	10.0	0.401	7.6	LOS A	2.2	58.1	0.46	0.33	28.0
Approach		853	10.0	0.401	7.6	LOS A	2.2	58.1	0.46	0.33	29.9
North: NCC											
7	L2	21	10.0	0.133	7.2	LOS A	0.5	13.1	0.65	0.65	31.1
4	T1	21	10.0	0.133	7.2	LOS A	0.5	13.1	0.65	0.65	30.3
14	R2	42	10.0	0.133	7.2	LOS A	0.5	13.1	0.65	0.65	29.0
Approach		84	10.0	0.133	7.2	LOS A	0.5	13.1	0.65	0.65	29.8
West: SR 120/108											
5	L2	116	10.0	0.128	5.2	LOS A	0.6	15.0	0.56	0.46	28.9
2	T1	463	10.0	0.508	10.2	LOS B	3.0	81.4	0.68	0.69	29.9
12	R2	21	10.0	0.508	10.2	LOS B	3.0	81.4	0.68	0.69	28.7
Approach		600	10.0	0.508	9.2	LOS A	3.0	81.4	0.66	0.64	29.7
All Vehicles		2179	10.0	0.508	6.0	LOS A	3.0	81.4	0.41	0.35	30.0

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 40. NCC & Minor Rd - Alt 2B AM_2042

40. NCC & Minor Road
Alt 2B - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Minor Road											
3	L2	21	13.0	0.053	4.1	LOS A	0.2	5.6	0.46	0.33	31.5
8	T1	11	13.0	0.053	4.1	LOS A	0.2	5.6	0.46	0.33	27.4
18	R2	21	13.0	0.053	4.1	LOS A	0.2	5.6	0.46	0.33	29.6
Approach		53	13.0	0.053	4.1	LOS A	0.2	5.6	0.46	0.33	29.9
East: NCC											
1	L2	21	13.0	0.153	3.9	LOS A	0.7	20.6	0.20	0.07	31.3
6	T1	379	13.0	0.153	3.8	LOS A	0.7	20.6	0.17	0.06	32.1
16	R2	21	13.0	0.153	3.8	LOS A	0.5	14.6	0.14	0.05	29.2
Approach		421	13.0	0.153	3.8	LOS A	0.7	20.6	0.17	0.06	31.9
North: Minor Road											
7	L2	21	13.0	0.051	3.9	LOS A	0.2	4.3	0.40	0.29	31.6
4	T1	11	13.0	0.051	3.9	LOS A	0.2	4.3	0.40	0.29	27.5
14	R2	21	13.0	0.051	3.9	LOS A	0.2	4.3	0.40	0.29	29.7
Approach		53	13.0	0.051	3.9	LOS A	0.2	4.3	0.40	0.29	29.9
West: NCC											
5	L2	21	13.0	0.137	3.7	LOS A	0.7	18.3	0.19	0.07	31.3
2	T1	337	13.0	0.137	3.7	LOS A	0.7	18.3	0.16	0.06	32.1
12	R2	21	13.0	0.137	3.7	LOS A	0.5	13.0	0.14	0.05	29.2
Approach		379	13.0	0.137	3.7	LOS A	0.7	18.3	0.16	0.06	31.9
All Vehicles		905	13.0	0.153	3.8	LOS A	0.7	20.6	0.20	0.09	31.7

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 40. NCC & Minor Rd - Alt 2B PM_2042

40. NCC & Minor Road
Alt 2B - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Minor Road											
3	L2	21	10.0	0.058	4.5	LOS A	0.2	5.9	0.52	0.40	31.4
8	T1	11	10.0	0.058	4.5	LOS A	0.2	5.9	0.52	0.40	27.3
18	R2	21	10.0	0.058	4.5	LOS A	0.2	5.9	0.52	0.40	29.5
Approach		53	10.0	0.058	4.5	LOS A	0.2	5.9	0.52	0.40	29.7
East: NCC											
1	L2	21	10.0	0.138	3.7	LOS A	0.7	18.6	0.19	0.07	31.4
6	T1	347	10.0	0.138	3.6	LOS A	0.7	18.6	0.18	0.07	32.2
16	R2	21	10.0	0.138	3.6	LOS A	0.6	16.8	0.17	0.06	29.3
Approach		389	10.0	0.138	3.6	LOS A	0.7	18.6	0.18	0.07	32.0
North: Minor Road											
7	L2	21	10.0	0.052	4.0	LOS A	0.2	5.4	0.46	0.33	31.6
4	T1	11	10.0	0.052	4.0	LOS A	0.2	5.4	0.46	0.33	27.5
14	R2	21	10.0	0.052	4.0	LOS A	0.2	5.4	0.46	0.33	29.7
Approach		53	10.0	0.052	4.0	LOS A	0.2	5.4	0.46	0.33	29.9
West: NCC											
5	L2	21	10.0	0.175	4.0	LOS A	0.9	24.5	0.20	0.07	31.3
2	T1	453	10.0	0.175	4.0	LOS A	0.9	24.5	0.19	0.07	32.1
12	R2	21	10.0	0.175	4.0	LOS A	0.8	22.1	0.18	0.07	29.2
Approach		495	10.0	0.175	4.0	LOS A	0.9	24.5	0.19	0.07	31.9
All Vehicles		989	10.0	0.175	3.9	LOS A	0.9	24.5	0.22	0.10	31.7

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR120/108- Alt 2B AM_2042

29. NCC & SR 120/108
Alt 2B - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	32	13.0	0.027	3.3	LOS A	0.1	2.9	0.35	0.19	30.3
18	R2	347	13.0	0.234	0.0	LOS A	0.0	0.0	0.00	0.00	30.4
Approach		379	13.0	0.234	0.3	LOS A	0.1	2.9	0.03	0.02	30.4
East: SR 120/108											
1	L2	337	13.0	0.274	5.4	LOS A	1.4	37.3	0.16	0.06	29.5
6	T1	242	13.0	0.197	4.6	LOS A	0.9	24.7	0.15	0.05	31.9
Approach		579	13.0	0.274	5.1	LOS A	1.4	37.3	0.16	0.05	30.5
West: SR 120/108											
5u	U	1	13.0	0.001	3.6	LOS A	0.0	0.1	0.46	0.21	30.5
2	T1	221	13.0	0.296	6.4	LOS A	1.3	37.0	0.52	0.42	31.0
12	R2	84	13.0	0.296	6.4	LOS A	1.3	37.0	0.52	0.42	29.8
Approach		306	13.0	0.296	6.4	LOS A	1.3	37.0	0.52	0.42	30.7
All Vehicles		1264	13.0	0.296	4.0	LOS A	1.4	37.3	0.21	0.13	30.5

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 29. NCC & SR120/108- Alt 2B PM_2042

29. NCC & SR 120/108
Alt 2B - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NCC											
3	L2	84	10.0	0.075	3.8	LOS A	0.3	8.1	0.41	0.27	30.1
18	R2	411	10.0	0.270	0.0	LOS A	0.0	0.0	0.00	0.00	30.4
Approach		495	10.0	0.270	0.7	LOS A	0.3	8.1	0.07	0.05	30.3
East: SR 120/108											
1	L2	337	10.0	0.283	5.6	LOS A	1.4	38.3	0.28	0.14	29.5
6	T1	274	10.0	0.230	5.1	LOS A	1.1	29.5	0.26	0.13	31.8
Approach		611	10.0	0.283	5.4	LOS A	1.4	38.3	0.27	0.13	30.4
West: SR 120/108											
5u	U	1	10.0	0.001	3.5	LOS A	0.0	0.1	0.46	0.21	30.6
2	T1	284	10.0	0.315	6.5	LOS A	1.5	40.6	0.53	0.43	31.1
12	R2	53	10.0	0.315	6.5	LOS A	1.5	40.6	0.53	0.43	29.8
Approach		338	10.0	0.315	6.5	LOS A	1.5	40.6	0.53	0.43	30.9
All Vehicles		1443	10.0	0.315	4.0	LOS A	1.5	40.6	0.26	0.17	30.5

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 28. NCC & Stearns - Alt 1B PM_2042

28. NCC & Stearns Rd
Alt 1B - PM Peak
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Minor Road											
3	L2	32	10.0	0.110	6.6	LOS A	0.4	10.9	0.63	1.24	24.5
8	T1	21	10.0	0.110	6.6	LOS A	0.4	10.9	0.63	1.24	24.5
18	R2	21	10.0	0.110	6.6	LOS A	0.4	10.9	0.63	1.24	24.5
Approach		74	10.0	0.110	6.6	LOS A	0.4	10.9	0.63	0.62	24.5
East: NCC											
1	L2	21	10.0	0.199	5.3	LOS A	0.9	25.4	0.52	0.79	26.4
6	T1	379	10.0	0.199	5.2	LOS A	0.9	25.4	0.49	0.76	26.6
16	R2	21	10.0	0.199	5.2	LOS A	0.9	23.4	0.47	0.72	26.8
Approach		421	10.0	0.199	5.2	LOS A	0.9	25.4	0.49	0.38	26.6
North: Minor Road											
7	L2	21	10.0	0.292	6.7	LOS A	1.3	35.6	0.57	1.00	25.2
4	T1	21	10.0	0.292	6.7	LOS A	1.3	35.6	0.57	1.00	25.2
14	R2	242	10.0	0.292	6.7	LOS A	1.3	35.6	0.57	1.00	25.2
Approach		284	10.0	0.292	6.7	LOS A	1.3	35.6	0.57	0.50	25.2
West: NCC											
5	L2	274	10.0	0.298	5.2	LOS A	1.7	47.2	0.25	0.21	24.7
2	T1	516	10.0	0.298	5.2	LOS A	1.7	47.2	0.23	0.20	26.2
12	R2	42	10.0	0.298	5.1	LOS A	1.6	42.7	0.23	0.19	26.8
Approach		832	10.0	0.298	5.2	LOS A	1.7	47.2	0.24	0.10	25.7
All Vehicles		1611	10.0	0.298	5.5	LOS A	1.7	47.2	0.38	0.27	25.8

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 28. NCC & Stearns - Alt 1B AM_2042

28. NCC & Stearns Rd
Alt 1B - AM Peak
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Minor Road											
3	L2	32	13.0	0.092	5.4	LOS A	0.3	9.4	0.57	1.00	25.0
8	T1	21	13.0	0.092	5.4	LOS A	0.3	9.4	0.57	1.00	25.0
18	R2	21	13.0	0.092	5.4	LOS A	0.3	9.4	0.57	1.00	25.0
Approach		74	13.0	0.092	5.4	LOS A	0.3	9.4	0.57	0.50	25.0
East: NCC											
1	L2	21	13.0	0.207	5.1	LOS A	1.0	27.2	0.46	0.64	26.6
6	T1	421	13.0	0.207	5.1	LOS A	1.0	27.2	0.44	0.61	26.7
16	R2	21	13.0	0.207	5.0	LOS A	0.9	24.9	0.42	0.58	26.9
Approach		463	13.0	0.207	5.1	LOS A	1.0	27.2	0.44	0.31	26.7
North: Minor Road											
7	L2	21	13.0	0.235	6.4	LOS A	1.0	26.7	0.57	1.02	25.3
4	T1	21	13.0	0.235	6.4	LOS A	1.0	26.7	0.57	1.02	25.3
14	R2	168	13.0	0.235	6.4	LOS A	1.0	26.7	0.57	1.02	25.3
Approach		211	13.0	0.235	6.4	LOS A	1.0	26.7	0.57	0.51	25.3
West: NCC											
5	L2	189	13.0	0.217	4.5	LOS A	1.1	31.2	0.23	0.19	25.0
2	T1	379	13.0	0.217	4.5	LOS A	1.1	31.2	0.22	0.18	26.5
12	R2	21	13.0	0.217	4.5	LOS A	1.0	28.2	0.21	0.17	27.2
Approach		589	13.0	0.217	4.5	LOS A	1.1	31.2	0.22	0.09	26.0
All Vehicles		1337	13.0	0.235	5.0	LOS A	1.1	31.2	0.37	0.25	26.1

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 28. NCC & Smith Rd - Alt 2B PM_2042

28. NCC & Smith Road
Alt 2B - PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Minor Road											
3	L2	21	10.0	0.095	5.6	LOS A	0.4	9.7	0.59	1.07	25.3
8	T1	32	10.0	0.095	5.6	LOS A	0.4	9.7	0.59	1.07	25.3
18	R2	21	10.0	0.095	5.6	LOS A	0.4	9.7	0.59	1.07	25.3
Approach		74	10.0	0.095	5.6	LOS A	0.4	9.7	0.59	0.53	25.3
East: NCC											
1	L2	21	10.0	0.164	4.6	LOS A	0.8	21.1	0.44	0.59	26.8
6	T1	347	10.0	0.164	4.4	LOS A	0.8	21.1	0.38	0.51	27.0
16	R2	21	10.0	0.164	4.3	LOS A	0.6	15.5	0.32	0.43	27.3
Approach		389	10.0	0.164	4.4	LOS A	0.8	21.1	0.38	0.25	27.0
North: Minor Road											
7	L2	21	10.0	0.257	5.7	LOS A	0.9	25.5	0.44	0.73	25.7
4	T1	63	10.0	0.257	5.7	LOS A	0.9	25.5	0.44	0.73	25.7
14	R2	200	10.0	0.257	5.7	LOS A	0.9	25.5	0.44	0.73	25.7
Approach		284	10.0	0.257	5.7	LOS A	0.9	25.5	0.44	0.37	25.7
West: NCC											
5	L2	189	10.0	0.245	4.8	LOS A	1.3	35.9	0.31	0.32	25.0
2	T1	453	10.0	0.245	4.7	LOS A	1.3	35.9	0.25	0.26	26.4
12	R2	21	10.0	0.245	4.7	LOS A	1.0	25.8	0.22	0.23	27.1
Approach		663	10.0	0.245	4.8	LOS A	1.3	35.9	0.27	0.14	26.0
All Vehicles		1411	10.0	0.257	4.9	LOS A	1.3	35.9	0.35	0.24	26.2

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 28. NCC & Smith Rd - Alt 2B AM_2042

28. NCC & Smith Road
Alt 2B - AM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Minor Road											
3	L2	21	13.0	0.072	4.8	LOS A	0.3	7.4	0.53	0.85	25.6
8	T1	21	13.0	0.072	4.8	LOS A	0.3	7.4	0.53	0.85	25.6
18	R2	21	13.0	0.072	4.8	LOS A	0.3	7.4	0.53	0.85	25.6
Approach		63	13.0	0.072	4.8	LOS A	0.3	7.4	0.53	0.42	25.6
East: NCC											
1	L2	21	13.0	0.172	4.5	LOS A	0.8	22.6	0.39	0.47	26.9
6	T1	379	13.0	0.172	4.4	LOS A	0.8	22.6	0.33	0.40	27.1
16	R2	21	13.0	0.172	4.3	LOS A	0.6	16.4	0.28	0.34	27.3
Approach		421	13.0	0.172	4.4	LOS A	0.8	22.6	0.33	0.20	27.1
North: Minor Road											
7	L2	21	13.0	0.162	4.9	LOS A	0.5	14.7	0.43	0.71	25.9
4	T1	21	13.0	0.162	4.9	LOS A	0.5	14.7	0.43	0.71	25.9
14	R2	126	13.0	0.162	4.9	LOS A	0.5	14.7	0.43	0.71	25.9
Approach		168	13.0	0.162	4.9	LOS A	0.5	14.7	0.43	0.35	25.9
West: NCC											
5	L2	137	13.0	0.181	4.2	LOS A	0.9	25.1	0.22	0.18	25.4
2	T1	337	13.0	0.181	4.1	LOS A	0.9	25.1	0.18	0.15	26.7
12	R2	21	13.0	0.181	4.1	LOS A	0.6	17.8	0.16	0.13	27.4
Approach		495	13.0	0.181	4.1	LOS A	0.9	25.1	0.19	0.08	26.4
All Vehicles		1147	13.0	0.181	4.4	LOS A	0.9	25.1	0.30	0.18	26.5

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.3	2.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	16.9	5.2	15.8	5.9	17.8	3.6	10.4
Travel Dist (mi)	141.1	24.9	72.7	62.3	24.4	116.4	441.8
Travel Time (hr)	3.9	0.6	3.4	1.8	0.9	3.0	13.6
Avg Speed (mph)	36	41	21	35	26	39	33
Fuel Used (gal)	3.5	0.6	2.9	2.6	0.6	1.9	12.1
Fuel Eff. (mpg)	39.8	41.4	25.3	23.6	40.8	62.6	36.5
HC Emissions (g)	219	40	135	139	33	107	672
CO Emissions (g)	4909	895	4124	4363	669	2141	17100
NOx Emissions (g)	614	112	350	372	91	293	1833
Vehicles Entered	272	48	316	270	78	388	1372
Vehicles Exited	272	48	316	270	78	388	1372
Hourly Exit Rate	272	48	316	270	78	388	1372
Input Volume	270	50	320	260	80	390	1370
% of Volume	101	96	99	104	97	99	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.5	0.1	1.4	0.0	0.0	0.0	4.2	0.2	0.1	4.1	0.1	0.2
Total Del/Veh (s)	13.4	4.1	1.6	10.8	4.2	1.9	11.4	9.1	2.6	10.5	7.9	2.7
Travel Dist (mi)	9.8	247.8	11.7	13.4	216.8	13.8	2.4	1.3	2.5	4.0	2.1	4.1
Travel Time (hr)	0.3	5.1	0.3	0.3	4.4	0.3	0.2	0.1	0.1	0.2	0.1	0.2
Avg Speed (mph)	37	49	48	41	49	48	16	19	22	20	22	24
Fuel Used (gal)	0.3	6.7	0.3	0.3	5.5	0.3	0.1	0.0	0.1	0.1	0.1	0.1
Fuel Eff. (mpg)	38.5	37.1	39.5	40.9	39.7	43.1	34.8	38.2	44.0	37.4	39.6	42.7
HC Emissions (g)	12	420	21	17	399	29	1	1	3	4	1	4
CO Emissions (g)	274	9604	475	363	8469	587	24	23	52	65	18	66
NOx Emissions (g)	37	1223	58	52	1142	79	3	3	8	10	2	11
Vehicles Entered	17	422	20	20	324	21	19	10	20	20	10	20
Vehicles Exited	17	422	20	20	325	20	19	10	20	20	10	20
Hourly Exit Rate	17	422	20	20	325	20	19	10	20	20	10	20
Input Volume	20	430	20	20	330	20	20	10	20	20	10	20
% of Volume	84	98	99	99	98	99	94	98	99	99	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	4.7
Travel Dist (mi)	529.7
Travel Time (hr)	11.4
Avg Speed (mph)	47
Fuel Used (gal)	13.8
Fuel Eff. (mpg)	38.5
HC Emissions (g)	912
CO Emissions (g)	20019
NOx Emissions (g)	2629
Vehicles Entered	923
Vehicles Exited	923
Hourly Exit Rate	923
Input Volume	942
% of Volume	98
Denied Entry Before	0
Denied Entry After	0

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	L	T	L	R
Maximum Queue (ft)	184	69	127	150	110	105	6
Average Queue (ft)	94	23	56	77	36	39	0
95th Queue (ft)	156	56	104	124	87	86	6
Link Distance (ft)	2742				1159	1583	1583
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		150	300	300			
Storage Blk Time (%)	1						
Queuing Penalty (veh)	0						

Intersection: 40: NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	59	75	78	38	48	56	83	23	55	61	63	44
Average Queue (ft)	14	29	19	4	14	12	23	2	15	16	14	15
95th Queue (ft)	43	62	55	20	38	41	61	16	43	44	43	40
Link Distance (ft)		3094	3094			3474	3474			662		1062
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			150	150		150	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Network Summary

Network wide Queuing Penalty: 0

29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.3	2.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	9.4	4.2	9.9	3.1	17.3	0.3	3.1	6.4
Travel Dist (mi)	106.2	41.1	72.0	54.4	9.2	0.2	102.7	385.8
Travel Time (hr)	2.5	1.0	2.8	1.4	0.3	0.0	2.5	10.6
Avg Speed (mph)	43	43	25	40	27	51	40	37
Fuel Used (gal)	2.7	1.0	2.8	2.5	0.2	0.0	1.7	11.0
Fuel Eff. (mpg)	38.6	39.8	25.6	21.8	39.6	28.1	59.8	34.9
HC Emissions (g)	243	76	169	164	20	4	133	808
CO Emissions (g)	5261	1684	4798	4787	400	65	2623	19619
NOx Emissions (g)	653	210	433	431	52	9	350	2138
Vehicles Entered	204	79	314	236	28	1	326	1188
Vehicles Exited	205	79	313	236	28	1	327	1189
Hourly Exit Rate	205	79	313	236	28	1	327	1189
Input Volume	210	80	320	230	30	1	330	1200
% of Volume	98	98	98	103	94	100	99	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.7	0.1	1.6	0.0	0.0	0.0	4.0	0.1	0.2	4.1	0.2	0.2
Total Del/Veh (s)	11.8	3.7	1.9	10.7	4.3	2.3	11.6	7.5	2.6	11.0	7.9	2.7
Travel Dist (mi)	10.6	172.5	10.2	12.6	228.8	13.8	2.2	1.1	2.5	2.8	1.8	2.8
Travel Time (hr)	0.3	3.5	0.2	0.3	4.6	0.3	0.2	0.1	0.1	0.2	0.1	0.1
Avg Speed (mph)	37	49	48	40	49	47	16	20	21	18	21	23
Fuel Used (gal)	0.3	4.7	0.3	0.3	5.8	0.3	0.1	0.0	0.1	0.1	0.0	0.1
Fuel Eff. (mpg)	37.7	36.6	35.9	41.7	39.1	42.4	36.2	39.1	44.0	37.0	41.2	42.8
HC Emissions (g)	24	411	35	20	517	45	2	1	3	4	2	6
CO Emissions (g)	516	8977	759	413	10704	892	29	19	51	68	30	87
NOx Emissions (g)	65	1127	89	57	1436	117	4	2	8	11	5	14
Vehicles Entered	19	318	19	20	352	22	18	9	21	17	11	18
Vehicles Exited	20	318	19	19	353	21	18	9	21	17	11	18
Hourly Exit Rate	20	318	19	19	353	21	18	9	21	17	11	18
Input Volume	20	320	20	20	360	20	20	10	20	20	10	20
% of Volume	99	99	94	94	98	104	89	88	104	84	107	89
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	4.6
Travel Dist (mi)	461.7
Travel Time (hr)	10.0
Avg Speed (mph)	47
Fuel Used (gal)	12.1
Fuel Eff. (mpg)	38.2
HC Emissions (g)	1069
CO Emissions (g)	22546
NOx Emissions (g)	2934
Vehicles Entered	844
Vehicles Exited	844
Hourly Exit Rate	844
Input Volume	862
% of Volume	98
Denied Entry Before	0
Denied Entry After	0

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	R	L	L	T	L
Maximum Queue (ft)	126	85	120	125	67	70
Average Queue (ft)	50	26	47	63	10	16
95th Queue (ft)	100	61	95	102	42	48
Link Distance (ft)	2741				1160	1642
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		150	300	300		
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 40: NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	59	76	68	43	66	78	89	48	59	59	61	60
Average Queue (ft)	17	24	12	5	16	16	30	4	14	16	14	16
95th Queue (ft)	46	59	44	24	46	56	72	23	44	44	42	46
Link Distance (ft)		2863	2863			3375	3375			640		841
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			150	150		150	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 144: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	2
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	1160
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.6	0.3	1.4	0.0	0.0	0.0	4.0	0.2	0.2	0.0	0.0	0.0
Total Del/Veh (s)	24.4	13.4	4.3	35.2	23.9	9.8	17.7	12.4	4.1	14.8	16.9	11.5
Travel Dist (mi)	215.2	287.2	29.1	35.4	282.0	15.6	4.1	0.8	4.2	5.0	1.7	84.9
Travel Time (hr)	7.4	7.3	0.7	1.3	8.3	0.4	0.4	0.1	0.2	0.3	0.1	5.1
Avg Speed (mph)	30	40	43	28	34	38	10	14	18	16	15	17
Fuel Used (gal)	5.7	7.7	0.8	1.3	9.5	0.5	0.2	0.0	0.1	0.2	0.1	3.0
Fuel Eff. (mpg)	37.8	37.4	38.0	28.2	29.6	30.8	25.5	30.1	40.7	25.8	26.0	28.0
HC Emissions (g)	335	443	60	84	571	40	6	0	4	9	4	145
CO Emissions (g)	7461	10676	1406	2069	14833	941	107	12	69	195	80	3011
NOx Emissions (g)	925	1254	158	225	1567	106	13	1	9	23	9	378
Vehicles Entered	394	527	54	46	360	20	47	9	48	28	10	471
Vehicles Exited	397	529	53	47	361	20	48	9	48	28	10	471
Hourly Exit Rate	397	529	53	47	361	20	48	9	48	28	10	471
Input Volume	400	530	50	50	360	20	50	10	50	30	10	470
% of Volume	99	100	106	94	100	99	96	88	96	94	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & Sterns Connection Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	17.2
Travel Dist (mi)	965.1
Travel Time (hr)	31.8
Avg Speed (mph)	31
Fuel Used (gal)	29.0
Fuel Eff. (mpg)	33.3
HC Emissions (g)	1699
CO Emissions (g)	40860
NOx Emissions (g)	4668
Vehicles Entered	2014
Vehicles Exited	2021
Hourly Exit Rate	2021
Input Volume	2031
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.4	0.6	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
Total Del/Veh (s)	26.5	16.8	5.8	21.6	11.8	5.0	26.5	28.9	11.7	23.4	24.8	8.4
Travel Dist (mi)	47.0	185.2	8.7	92.7	96.6	4.7	21.5	28.5	417.1	1.1	1.2	2.3
Travel Time (hr)	1.9	5.5	0.2	4.9	3.4	0.2	0.6	0.8	10.2	0.2	0.2	0.2
Avg Speed (mph)	25	34	38	19	28	30	33	34	41	6	7	11
Fuel Used (gal)	1.2	4.3	0.2	3.5	3.7	0.2	0.7	0.9	11.9	0.1	0.1	0.1
Fuel Eff. (mpg)	39.0	42.7	43.3	26.3	26.4	29.0	30.9	30.9	35.0	21.0	20.7	31.5
HC Emissions (g)	68	246	14	159	188	11	41	51	684	1	2	2
CO Emissions (g)	1526	5502	319	4574	5517	295	1061	1349	17647	26	41	48
NOx Emissions (g)	179	680	38	413	497	28	114	140	1889	3	5	6
Vehicles Entered	110	436	21	389	405	20	28	37	541	19	20	38
Vehicles Exited	110	439	20	385	404	20	27	36	540	19	20	38
Hourly Exit Rate	110	439	20	385	404	20	27	36	540	19	20	38
Input Volume	110	440	20	390	400	20	30	40	540	20	20	40
% of Volume	100	100	99	99	101	99	91	90	100	94	99	96
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	16.0
Travel Dist (mi)	906.6
Travel Time (hr)	28.4
Avg Speed (mph)	32
Fuel Used (gal)	26.8
Fuel Eff. (mpg)	33.8
HC Emissions (g)	1467
CO Emissions (g)	37907
NOx Emissions (g)	3991
Vehicles Entered	2064
Vehicles Exited	2058
Hourly Exit Rate	2058
Input Volume	2070
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.2	3.5	1.1	1.6
Total Del/Veh (s)	22.5	2.0	6.5	19.5	8.6	9.6	3.2	9.0
Travel Dist (mi)	7.5	0.1	71.0	4.6	9.6	67.7	3.9	164.4
Travel Time (hr)	0.6	0.0	3.7	0.3	0.4	3.6	0.1	8.7
Avg Speed (mph)	13	23	19	17	21	21	35	20
Fuel Used (gal)	0.3	0.0	2.6	0.1	0.3	1.8	0.1	5.2
Fuel Eff. (mpg)	22.8	22.7	27.8	32.2	34.7	38.1	35.5	31.6
HC Emissions (g)	11	0	131	6	16	76	6	246
CO Emissions (g)	265	3	2717	165	387	1806	171	5514
NOx Emissions (g)	31	0	351	16	42	188	15	644
Vehicles Entered	40	1	384	31	64	447	26	993
Vehicles Exited	40	1	383	31	64	445	26	990
Hourly Exit Rate	40	1	383	31	64	445	26	990
Input Volume	40	1	390	30	60	450	30	1000
% of Volume	101	133	98	104	107	99	87	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	1	0	1

137: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	4.6	4.6
Travel Dist (mi)	488.3	488.3
Travel Time (hr)	11.2	11.2
Avg Speed (mph)	44	44
Fuel Used (gal)	18.5	18.5
Fuel Eff. (mpg)	26.4	26.4
HC Emissions (g)	1209	1209
CO Emissions (g)	31431	31431
NOx Emissions (g)	3348	3348
Vehicles Entered	879	879
Vehicles Exited	881	881
Hourly Exit Rate	881	881
Input Volume	880	880
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

141: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.7	0.7
Travel Dist (mi)	10.9	10.9
Travel Time (hr)	0.4	0.4
Avg Speed (mph)	27	27
Fuel Used (gal)	0.4	0.4
Fuel Eff. (mpg)	29.8	29.8
HC Emissions (g)	16	16
CO Emissions (g)	336	336
NOx Emissions (g)	45	45
Vehicles Entered	66	66
Vehicles Exited	66	66
Hourly Exit Rate	66	66
Input Volume	70	70
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

142: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.0	1.0
Travel Dist (mi)	65.8	65.8
Travel Time (hr)	2.7	2.7
Avg Speed (mph)	24	24
Fuel Used (gal)	2.6	2.6
Fuel Eff. (mpg)	24.9	24.9
HC Emissions (g)	143	143
CO Emissions (g)	3066	3066
NOx Emissions (g)	395	395
Vehicles Entered	414	414
Vehicles Exited	413	413
Hourly Exit Rate	413	413
Input Volume	420	420
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	5.0	5.0
Travel Dist (mi)	206.6	206.6
Travel Time (hr)	4.6	4.6
Avg Speed (mph)	45	45
Fuel Used (gal)	7.6	7.6
Fuel Eff. (mpg)	27.2	27.2
HC Emissions (g)	487	487
CO Emissions (g)	12382	12382
NOx Emissions (g)	1368	1368
Vehicles Entered	470	470
Vehicles Exited	470	470
Hourly Exit Rate	470	470
Input Volume	470	470
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.8	0.4
Total Del/Veh (s)	10.2	1.1	6.1
Travel Dist (mi)	240.6	128.9	369.5
Travel Time (hr)	8.1	4.8	12.8
Avg Speed (mph)	30	28	29
Fuel Used (gal)	9.4	3.3	12.7
Fuel Eff. (mpg)	25.5	39.0	29.0
HC Emissions (g)	488	139	626
CO Emissions (g)	13686	2270	15956
NOx Emissions (g)	1323	358	1681
Vehicles Entered	998	815	1813
Vehicles Exited	995	813	1808
Hourly Exit Rate	995	813	1808
Input Volume	1000	810	1810
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

145: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.2	1.2
Travel Dist (mi)	12.1	12.1
Travel Time (hr)	0.6	0.6
Avg Speed (mph)	22	22
Fuel Used (gal)	0.7	0.7
Fuel Eff. (mpg)	17.9	17.9
HC Emissions (g)	38	38
CO Emissions (g)	904	904
NOx Emissions (g)	106	106
Vehicles Entered	166	166
Vehicles Exited	166	166
Hourly Exit Rate	166	166
Input Volume	170	170
% of Volume	98	98
Denied Entry Before	0	0
Denied Entry After	0	0

146: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.4	1.4
Travel Dist (mi)	167.6	167.6
Travel Time (hr)	6.0	6.0
Avg Speed (mph)	28	28
Fuel Used (gal)	4.4	4.4
Fuel Eff. (mpg)	37.7	37.7
HC Emissions (g)	181	181
CO Emissions (g)	3232	3232
NOx Emissions (g)	473	473
Vehicles Entered	995	995
Vehicles Exited	995	995
Hourly Exit Rate	995	995
Input Volume	1000	1000
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

178: External Performance by approach

Approach	SE	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.9	0.9
Travel Dist (mi)	10.9	10.9
Travel Time (hr)	0.5	0.5
Avg Speed (mph)	23	23
Fuel Used (gal)	0.5	0.5
Fuel Eff. (mpg)	20.5	20.5
HC Emissions (g)	32	32
CO Emissions (g)	722	722
NOx Emissions (g)	89	89
Vehicles Entered	110	110
Vehicles Exited	110	110
Hourly Exit Rate	110	110
Input Volume	110	110
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

Total Network Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	30.4
Travel Dist (mi)	3367.8
Travel Time (hr)	107.6
Avg Speed (mph)	32
Fuel Used (gal)	108.5
Fuel Eff. (mpg)	31.0
HC Emissions (g)	6146
CO Emissions (g)	152310
NOx Emissions (g)	16807
Vehicles Entered	3106
Vehicles Exited	3102
Hourly Exit Rate	3102
Input Volume	10032
% of Volume	31
Denied Entry Before	0
Denied Entry After	1

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	R	L	T	T	R	L	TR	LT
Maximum Queue (ft)	181	192	157	162	77	114	168	171	61	90	67	83
Average Queue (ft)	78	110	63	72	16	39	85	79	12	26	20	19
95th Queue (ft)	145	168	124	135	52	88	143	142	42	63	49	55
Link Distance (ft)			2866	2866			4036	4036			447	868
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			150	150			150	150		
Storage Blk Time (%)				0		0	1	1				
Queuing Penalty (veh)				0		0	0	0				

Intersection: 28: NCC & Sterns Connection

Movement	SB
Directions Served	R
Maximum Queue (ft)	252
Average Queue (ft)	135
95th Queue (ft)	224
Link Distance (ft)	868
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	LT	R	LTR
Maximum Queue (ft)	150	247	73	184	200	225	59	100	9	104
Average Queue (ft)	63	123	11	80	101	94	8	33	0	39
95th Queue (ft)	116	209	48	144	160	178	36	81	6	81
Link Distance (ft)		2237				1205		4036	4036	303
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	200		200	300	300		150			
Storage Blk Time (%)		1				1				
Queuing Penalty (veh)		1				6				

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	115	206	112	227	31
Average Queue (ft)	32	69	46	108	2
95th Queue (ft)	82	159	90	180	15
Link Distance (ft)	868	868	795		801
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				300	
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Intersection: 144: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	4
Average Queue (ft)	0
95th Queue (ft)	4
Link Distance (ft)	1205
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 8

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.7	0.2	1.6	0.0	0.0	0.0	3.9	0.4	0.3	0.0	0.0	0.0
Total Del/Veh (s)	18.9	8.1	2.8	28.6	17.8	9.5	19.1	16.9	4.0	17.9	19.1	8.5
Travel Dist (mi)	186.8	182.3	28.2	39.1	328.3	17.1	3.7	0.9	4.3	3.5	1.7	43.2
Travel Time (hr)	5.9	4.1	0.6	1.3	9.0	0.5	0.4	0.1	0.3	0.2	0.1	2.4
Avg Speed (mph)	32	44	45	30	37	38	10	11	17	15	15	18
Fuel Used (gal)	4.9	5.0	0.8	1.4	11.1	0.6	0.2	0.0	0.1	0.1	0.1	1.6
Fuel Eff. (mpg)	37.8	36.4	36.8	28.6	29.5	30.9	23.9	29.2	39.5	24.7	24.7	27.3
HC Emissions (g)	369	405	70	90	885	48	5	1	4	9	3	92
CO Emissions (g)	7906	9162	1592	2253	21260	1112	101	21	81	186	64	1890
NOx Emissions (g)	997	1099	184	241	2349	129	12	3	10	23	7	242
Vehicles Entered	341	332	52	51	423	22	46	10	52	20	10	243
Vehicles Exited	340	332	52	50	421	22	46	10	52	20	10	243
Hourly Exit Rate	340	332	52	50	421	22	46	10	52	20	10	243
Input Volume	340	340	50	50	430	20	50	10	50	20	10	250
% of Volume	100	98	104	100	98	109	92	98	104	99	98	97
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & Sterns Connection Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	14.0
Travel Dist (mi)	839.2
Travel Time (hr)	25.0
Avg Speed (mph)	34
Fuel Used (gal)	25.9
Fuel Eff. (mpg)	32.5
HC Emissions (g)	1983
CO Emissions (g)	45628
NOx Emissions (g)	5298
Vehicles Entered	1602
Vehicles Exited	1598
Hourly Exit Rate	1598
Input Volume	1621
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.6	0.4	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3
Total Del/Veh (s)	27.1	16.5	5.9	19.4	11.2	4.6	23.0	24.5	7.5	18.7	22.9	11.2
Travel Dist (mi)	12.2	110.6	12.1	103.8	126.1	2.9	12.3	8.3	289.0	1.2	1.9	6.5
Travel Time (hr)	0.5	3.3	0.3	5.2	4.3	0.1	0.4	0.2	6.7	0.2	0.3	0.7
Avg Speed (mph)	25	34	38	20	29	30	35	36	43	8	7	10
Fuel Used (gal)	0.3	2.9	0.3	3.8	4.7	0.1	0.4	0.3	8.0	0.1	0.1	0.3
Fuel Eff. (mpg)	35.8	38.1	40.5	27.6	27.0	30.5	32.1	31.8	36.0	21.4	19.9	25.9
HC Emissions (g)	22	204	25	223	297	6	31	10	643	2	3	10
CO Emissions (g)	508	4615	566	5487	7651	156	727	297	15041	40	60	194
NOx Emissions (g)	58	548	66	573	783	15	84	30	1713	5	7	23
Vehicles Entered	29	261	28	435	528	12	16	11	378	20	32	110
Vehicles Exited	29	262	28	435	528	12	16	11	378	20	32	110
Hourly Exit Rate	29	262	28	435	528	12	16	11	378	20	32	110
Input Volume	30	260	30	440	520	10	20	10	380	20	30	110
% of Volume	97	101	94	99	102	117	79	105	100	99	108	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	13.7
Travel Dist (mi)	686.9
Travel Time (hr)	22.1
Avg Speed (mph)	31
Fuel Used (gal)	21.1
Fuel Eff. (mpg)	32.5
HC Emissions (g)	1476
CO Emissions (g)	35342
NOx Emissions (g)	3905
Vehicles Entered	1860
Vehicles Exited	1861
Hourly Exit Rate	1861
Input Volume	1860
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	3.7	0.6	1.3
Total Del/Veh (s)	13.4	0.9	5.8	11.8	4.2	8.7	3.2	7.2
Travel Dist (mi)	7.2	0.2	61.0	3.0	6.2	35.2	3.2	116.0
Travel Time (hr)	0.4	0.0	3.1	0.1	0.2	1.8	0.1	5.9
Avg Speed (mph)	16	21	19	23	27	22	36	21
Fuel Used (gal)	0.3	0.0	2.2	0.1	0.1	0.9	0.1	3.7
Fuel Eff. (mpg)	24.8	18.2	27.6	40.3	41.6	38.8	39.7	31.2
HC Emissions (g)	14	1	138	6	8	49	6	223
CO Emissions (g)	310	23	2788	126	184	1075	138	4644
NOx Emissions (g)	38	3	364	15	22	124	15	582
Vehicles Entered	39	2	332	20	41	233	21	688
Vehicles Exited	39	2	333	20	41	231	21	687
Hourly Exit Rate	39	2	333	20	41	231	21	687
Input Volume	40	1	330	20	40	240	20	691
% of Volume	98	200	101	99	103	96	104	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

Total Network Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	25.3
Travel Dist (mi)	2830.7
Travel Time (hr)	86.4
Avg Speed (mph)	33
Fuel Used (gal)	92.8
Fuel Eff. (mpg)	30.5
HC Emissions (g)	6722
CO Emissions (g)	156883
NOx Emissions (g)	17927
Vehicles Entered	2603
Vehicles Exited	2603
Hourly Exit Rate	2603
Input Volume	8412
% of Volume	31
Denied Entry Before	0
Denied Entry After	0

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	R	L	T	T	R	L	TR	LT
Maximum Queue (ft)	141	162	98	99	49	123	178	167	63	83	74	70
Average Queue (ft)	58	87	35	30	10	36	75	78	16	26	19	21
95th Queue (ft)	110	138	78	74	34	85	139	141	49	64	50	54
Link Distance (ft)			2884	2884			4016	4016			419	863
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			150	150			150	150		
Storage Blk Time (%)				0		0	1	1				
Queuing Penalty (veh)				0		0	0	0				

Intersection: 28: NCC & Sterns Connection

Movement	SB
Directions Served	R
Maximum Queue (ft)	151
Average Queue (ft)	77
95th Queue (ft)	128
Link Distance (ft)	863
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	LT	R	LTR
Maximum Queue (ft)	75	182	63	173	194	231	42	68	11	167
Average Queue (ft)	23	88	14	84	109	97	4	14	0	67
95th Queue (ft)	58	155	44	152	170	192	21	45	5	129
Link Distance (ft)		2232				1205		4016	4016	303
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	200		200	300	300		150			
Storage Blk Time (%)		0				2				
Queuing Penalty (veh)		0				9				

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	100	194	73	160	44
Average Queue (ft)	26	73	29	72	3
95th Queue (ft)	70	147	63	129	22
Link Distance (ft)	863	863	795		801
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				300	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 9

29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.3	3.7	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	12.9	4.4	13.1	4.5	18.9	0.6	3.9	8.9
Travel Dist (mi)	85.1	14.1	86.5	53.8	28.0	0.2	132.1	399.8
Travel Time (hr)	2.4	0.4	3.7	1.4	1.1	0.0	3.4	12.3
Avg Speed (mph)	36	39	24	38	25	51	39	33
Fuel Used (gal)	2.3	0.4	3.4	2.3	0.7	0.0	2.1	11.2
Fuel Eff. (mpg)	37.6	38.3	25.6	22.9	40.6	43.4	62.5	35.8
HC Emissions (g)	150	29	152	139	38	0	124	632
CO Emissions (g)	3580	685	4811	4250	776	1	2497	16600
NOx Emissions (g)	403	77	401	369	105	0	334	1690
Vehicles Entered	216	36	360	223	89	1	439	1364
Vehicles Exited	216	36	361	224	89	1	438	1365
Hourly Exit Rate	216	36	361	224	89	1	438	1365
Input Volume	220	40	360	220	90	1	440	1370
% of Volume	98	91	100	102	99	133	100	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.5	0.1	1.2	0.0	0.0	0.0	4.2	0.1	0.2	4.2	0.1	0.2
Total Del/Veh (s)	11.1	4.2	1.8	12.2	4.5	2.4	11.7	8.6	3.2	12.2	8.5	3.1
Travel Dist (mi)	12.5	294.0	12.3	11.3	240.4	13.7	2.2	1.3	2.5	3.6	1.8	3.7
Travel Time (hr)	0.3	6.0	0.3	0.3	4.9	0.3	0.2	0.1	0.1	0.2	0.1	0.2
Avg Speed (mph)	39	49	48	40	49	47	16	19	21	19	21	23
Fuel Used (gal)	0.3	7.9	0.3	0.3	6.1	0.3	0.1	0.0	0.1	0.1	0.0	0.1
Fuel Eff. (mpg)	40.6	37.2	38.0	40.4	39.5	42.7	35.2	38.4	43.3	36.9	39.9	43.4
HC Emissions (g)	22	513	33	15	427	22	1	1	3	1	2	3
CO Emissions (g)	469	11638	714	318	9044	465	26	22	45	28	28	53
NOx Emissions (g)	62	1487	88	46	1236	65	3	3	7	4	4	8
Vehicles Entered	21	490	21	17	360	21	17	10	19	19	10	20
Vehicles Exited	21	491	20	17	359	20	17	10	19	19	10	20
Hourly Exit Rate	21	491	20	17	359	20	17	10	19	19	10	20
Input Volume	20	490	20	20	360	20	20	10	20	20	10	20
% of Volume	104	100	99	84	100	99	84	98	94	94	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	4.8
Travel Dist (mi)	599.3
Travel Time (hr)	12.8
Avg Speed (mph)	47
Fuel Used (gal)	15.6
Fuel Eff. (mpg)	38.4
HC Emissions (g)	1044
CO Emissions (g)	22850
NOx Emissions (g)	3014
Vehicles Entered	1025
Vehicles Exited	1023
Hourly Exit Rate	1023
Input Volume	1032
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

142: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.9	0.9
Travel Dist (mi)	10.0	10.0
Travel Time (hr)	0.4	0.4
Avg Speed (mph)	26	26
Fuel Used (gal)	0.4	0.4
Fuel Eff. (mpg)	28.2	28.2
HC Emissions (g)	20	20
CO Emissions (g)	409	409
NOx Emissions (g)	53	53
Vehicles Entered	51	51
Vehicles Exited	51	51
Hourly Exit Rate	51	51
Input Volume	51	51
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

143: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.9	0.9
Travel Dist (mi)	6.7	6.7
Travel Time (hr)	0.3	0.3
Avg Speed (mph)	25	25
Fuel Used (gal)	0.3	0.3
Fuel Eff. (mpg)	25.0	25.0
HC Emissions (g)	16	16
CO Emissions (g)	344	344
NOx Emissions (g)	44	44
Vehicles Entered	47	47
Vehicles Exited	48	48
Hourly Exit Rate	48	48
Input Volume	51	51
% of Volume	95	95
Denied Entry Before	0	0
Denied Entry After	0	0

144: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.5	0.2
Total Del/Veh (s)	7.4	2.5	5.1
Travel Dist (mi)	157.9	238.6	396.5
Travel Time (hr)	4.9	8.5	13.4
Avg Speed (mph)	32	28	30
Fuel Used (gal)	6.4	5.9	12.3
Fuel Eff. (mpg)	24.7	40.7	32.3
HC Emissions (g)	362	240	603
CO Emissions (g)	10761	3740	14501
NOx Emissions (g)	953	622	1575
Vehicles Entered	654	584	1238
Vehicles Exited	653	583	1236
Hourly Exit Rate	653	583	1236
Input Volume	660	580	1240
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

191: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.7	2.7
Travel Dist (mi)	242.3	242.3
Travel Time (hr)	4.8	4.8
Avg Speed (mph)	50	50
Fuel Used (gal)	7.4	7.4
Fuel Eff. (mpg)	32.8	32.8
HC Emissions (g)	474	474
CO Emissions (g)	11266	11266
NOx Emissions (g)	1370	1370
Vehicles Entered	396	396
Vehicles Exited	397	397
Hourly Exit Rate	397	397
Input Volume	401	401
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

192: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.2	2.2
Travel Dist (mi)	127.1	127.1
Travel Time (hr)	2.7	2.7
Avg Speed (mph)	47	47
Fuel Used (gal)	4.3	4.3
Fuel Eff. (mpg)	29.4	29.4
HC Emissions (g)	318	318
CO Emissions (g)	7852	7852
NOx Emissions (g)	870	870
Vehicles Entered	313	313
Vehicles Exited	311	311
Hourly Exit Rate	311	311
Input Volume	310	310
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

195: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	3.2	3.2
Travel Dist (mi)	273.1	273.1
Travel Time (hr)	9.8	9.8
Avg Speed (mph)	28	28
Fuel Used (gal)	6.8	6.8
Fuel Eff. (mpg)	40.4	40.4
HC Emissions (g)	280	280
CO Emissions (g)	4470	4470
NOx Emissions (g)	720	720
Vehicles Entered	653	653
Vehicles Exited	651	651
Hourly Exit Rate	651	651
Input Volume	660	660
% of Volume	99	99
Denied Entry Before	0	0
Denied Entry After	0	0

198: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	3.5	1.5	2.6
Travel Dist (mi)	355.6	124.9	480.5
Travel Time (hr)	7.1	3.2	10.3
Avg Speed (mph)	50	39	47
Fuel Used (gal)	11.0	6.0	17.0
Fuel Eff. (mpg)	32.3	20.7	28.2
HC Emissions (g)	704	328	1032
CO Emissions (g)	17194	10092	27286
NOx Emissions (g)	2015	898	2912
Vehicles Entered	530	397	927
Vehicles Exited	529	397	926
Hourly Exit Rate	529	397	926
Input Volume	530	400	930
% of Volume	100	99	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	19.7
Travel Dist (mi)	2535.4
Travel Time (hr)	66.8
Avg Speed (mph)	38
Fuel Used (gal)	75.2
Fuel Eff. (mpg)	33.7
HC Emissions (g)	4420
CO Emissions (g)	105577
NOx Emissions (g)	12249
Vehicles Entered	1464
Vehicles Exited	1459
Hourly Exit Rate	1459
Input Volume	6045
% of Volume	24
Denied Entry Before	0
Denied Entry After	0

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	L	T	L	R
Maximum Queue (ft)	151	59	117	145	84	114	11
Average Queue (ft)	66	18	56	75	20	43	1
95th Queue (ft)	124	48	99	121	61	91	10
Link Distance (ft)	2075				1214	1587	1587
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		150	300	300			
Storage Blk Time (%)	0						
Queuing Penalty (veh)	0						

Intersection: 40: NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	56	75	78	30	49	81	84	33	54	61	48	70
Average Queue (ft)	16	27	20	3	12	15	24	4	13	19	15	18
95th Queue (ft)	42	62	58	17	37	51	63	20	41	50	41	49
Link Distance (ft)		3157	3157			3476	3476			681		965
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			150	150		150	
Storage Blk Time (%)			0			0						
Queuing Penalty (veh)			0			0						

Network Summary

Network wide Queuing Penalty: 0

29: NCC & SR 120/108 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.4	3.7	0.0	0.0	0.0	0.0	0.0	0.3
Total Del/Veh (s)	10.7	4.3	10.2	3.5	16.9	0.1	3.4	7.0
Avg Speed (mph)	38	40	25	39	27	50	40	34
Fuel Used (gal)	1.8	0.8	3.2	2.1	0.3	0.0	1.9	10.2
Fuel Eff. (mpg)	37.3	37.8	25.8	22.0	40.0	27.3	60.0	34.7
HC Emissions (g)	151	53	192	124	21	5	139	685
CO Emissions (g)	3437	1270	5450	3857	427	89	2740	17270
NOx Emissions (g)	400	145	495	331	57	12	367	1807
Vehicles Entered	173	79	360	204	41	2	360	1219
Vehicles Exited	173	79	359	205	41	2	361	1220
Hourly Exit Rate	173	79	359	205	41	2	361	1220
Input Volume	180	80	360	200	40	1	360	1221
% of Volume	96	98	100	103	103	200	100	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.5	0.1	1.2	0.0	0.0	0.0	4.2	0.1	0.2	4.1	0.2	0.1
Total Del/Veh (s)	10.7	3.8	1.6	11.3	4.3	2.2	11.2	8.4	2.3	11.5	7.5	2.8
Avg Speed (mph)	40	50	49	40	49	47	16	19	22	17	21	23
Fuel Used (gal)	0.3	6.0	0.3	0.3	6.6	0.3	0.1	0.0	0.1	0.1	0.0	0.1
Fuel Eff. (mpg)	37.4	36.6	38.0	40.4	39.4	42.7	35.7	38.1	44.0	36.4	39.7	43.0
HC Emissions (g)	33	490	36	25	584	49	1	1	3	3	1	5
CO Emissions (g)	666	10717	769	501	12092	961	27	23	50	52	23	74
NOx Emissions (g)	86	1359	95	69	1622	126	4	3	8	8	3	12
Vehicles Entered	18	367	22	18	398	22	17	10	17	19	10	20
Vehicles Exited	18	366	22	19	396	22	18	10	18	19	10	20
Hourly Exit Rate	18	366	22	19	396	22	18	10	18	19	10	20
Input Volume	20	360	20	20	401	20	20	10	20	20	10	20
% of Volume	89	102	109	94	99	109	89	98	89	94	98	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

40: NCC Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	4.5
Avg Speed (mph)	47
Fuel Used (gal)	14.2
Fuel Eff. (mpg)	38.3
HC Emissions (g)	1231
CO Emissions (g)	25956
NOx Emissions (g)	3395
Vehicles Entered	938
Vehicles Exited	938
Hourly Exit Rate	938
Input Volume	944
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	16.8
Avg Speed (mph)	39
Fuel Used (gal)	67.8
Fuel Eff. (mpg)	33.5
HC Emissions (g)	4960
CO Emissions (g)	112191
NOx Emissions (g)	13381
Vehicles Entered	1317
Vehicles Exited	1317
Hourly Exit Rate	1317
Input Volume	5428
% of Volume	24
Denied Entry Before	0
Denied Entry After	0

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	L	T	L	R
Maximum Queue (ft)	132	77	115	130	71	69	6
Average Queue (ft)	52	29	51	69	13	21	0
95th Queue (ft)	106	62	92	110	48	51	6
Link Distance (ft)	2075				1162	1636	1636
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		150	300	300			
Storage Blk Time (%)	0						
Queuing Penalty (veh)	0						

Intersection: 40: NCC

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	57	73	81	38	65	74	92	44	55	62	64	56
Average Queue (ft)	15	25	17	5	14	16	28	4	13	15	15	15
95th Queue (ft)	44	59	51	24	43	52	71	22	40	44	47	43
Link Distance (ft)		3135	3135			3427	3427			665		792
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			150	150		150	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Network Summary

Network wide Queuing Penalty: 0

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.6	0.3	1.5	0.0	0.0	0.0	4.0	0.3	0.2	0.0	0.0	0.0
Total Del/Veh (s)	22.4	11.6	3.9	31.7	20.9	10.6	18.8	15.9	4.8	17.5	18.3	10.4
Travel Dist (mi)	228.8	304.0	27.5	35.5	303.6	16.1	2.9	0.5	2.7	3.2	1.8	68.9
Travel Time (hr)	7.7	7.4	0.7	1.2	8.6	0.4	0.4	0.1	0.2	0.2	0.1	4.1
Avg Speed (mph)	31	41	43	29	35	37	7	9	14	15	15	17
Fuel Used (gal)	6.0	8.1	0.7	1.2	10.3	0.5	0.1	0.0	0.1	0.1	0.1	2.5
Fuel Eff. (mpg)	38.0	37.4	37.8	28.7	29.6	31.5	20.2	25.7	40.4	25.7	25.0	27.5
HC Emissions (g)	365	508	57	76	597	46	3	1	2	3	3	118
CO Emissions (g)	8128	12060	1343	1935	15747	1063	78	12	40	82	71	2485
NOx Emissions (g)	1005	1424	152	204	1651	122	7	1	4	8	8	311
Vehicles Entered	421	560	50	46	395	21	52	9	49	18	11	389
Vehicles Exited	421	559	50	46	393	21	52	9	49	18	10	389
Hourly Exit Rate	421	559	50	46	393	21	52	9	49	18	10	389
Input Volume	430	570	50	50	391	20	50	10	50	20	10	390
% of Volume	98	98	100	92	101	104	104	88	98	89	98	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

28: NCC & Sterns Connection Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	15.9
Travel Dist (mi)	995.5
Travel Time (hr)	31.2
Avg Speed (mph)	32
Fuel Used (gal)	29.8
Fuel Eff. (mpg)	33.4
HC Emissions (g)	1779
CO Emissions (g)	43044
NOx Emissions (g)	4899
Vehicles Entered	2021
Vehicles Exited	2017
Hourly Exit Rate	2017
Input Volume	2042
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.5	0.6	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2
Total Del/Veh (s)	26.7	17.6	5.9	20.7	11.7	5.0	25.4	27.2	12.0	21.3	22.7	8.1
Travel Dist (mi)	45.8	172.9	8.9	100.4	90.1	4.5	21.7	29.6	424.5	1.2	1.2	2.3
Travel Time (hr)	1.9	5.2	0.2	5.2	3.1	0.2	0.6	0.9	10.4	0.2	0.2	0.2
Avg Speed (mph)	25	33	38	19	29	30	34	35	41	7	7	12
Fuel Used (gal)	1.2	4.1	0.2	3.8	3.4	0.1	0.7	1.0	11.9	0.1	0.1	0.1
Fuel Eff. (mpg)	38.1	42.2	42.4	26.6	26.3	30.4	30.8	31.1	35.8	22.3	21.2	30.6
HC Emissions (g)	65	228	12	171	155	9	32	53	740	1	2	2
CO Emissions (g)	1475	5175	284	4954	4851	243	899	1385	18511	26	38	47
NOx Emissions (g)	175	632	34	444	418	23	92	147	2025	3	4	5
Vehicles Entered	107	405	21	420	378	19	28	39	560	20	20	40
Vehicles Exited	108	403	21	421	377	19	28	39	558	19	21	39
Hourly Exit Rate	108	403	21	421	377	19	28	39	558	19	21	39
Input Volume	110	410	20	420	370	20	30	40	570	20	20	40
% of Volume	98	98	104	100	102	94	94	96	98	94	104	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

29: NCC & SR 120/108 Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	16.1
Travel Dist (mi)	903.1
Travel Time (hr)	28.3
Avg Speed (mph)	32
Fuel Used (gal)	26.6
Fuel Eff. (mpg)	34.0
HC Emissions (g)	1470
CO Emissions (g)	37889
NOx Emissions (g)	4002
Vehicles Entered	2057
Vehicles Exited	2053
Hourly Exit Rate	2053
Input Volume	2072
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0		0.0	0.2	0.2	3.6	1.0	1.5
Total Del/Veh (s)	20.7		6.5	17.6	7.1	9.7	3.3	8.9
Travel Dist (mi)	10.6	0.0	71.9	4.7	7.6	55.8	4.5	155.1
Travel Time (hr)	0.8	0.0	3.8	0.3	0.3	3.0	0.1	8.3
Avg Speed (mph)	14	20	19	18	23	21	35	20
Fuel Used (gal)	0.4	0.0	2.6	0.1	0.2	1.5	0.1	5.0
Fuel Eff. (mpg)	23.7	17.4	27.8	34.8	36.0	37.3	36.7	31.0
HC Emissions (g)	20	0	138	5	12	60	7	243
CO Emissions (g)	426	1	2882	129	281	1476	194	5389
NOx Emissions (g)	53	0	367	13	31	153	19	636
Vehicles Entered	58	0	393	31	50	368	30	930
Vehicles Exited	57	0	393	31	50	367	30	928
Hourly Exit Rate	57	0	393	31	50	367	30	928
Input Volume	60	0	400	30	50	370	30	940
% of Volume	95	0	98	104	100	99	101	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	29.8
Travel Dist (mi)	3346.9
Travel Time (hr)	105.6
Avg Speed (mph)	32
Fuel Used (gal)	107.3
Fuel Eff. (mpg)	31.2
HC Emissions (g)	6039
CO Emissions (g)	150431
NOx Emissions (g)	16554
Vehicles Entered	3051
Vehicles Exited	3041
Hourly Exit Rate	3041
Input Volume	9934
% of Volume	31
Denied Entry Before	0
Denied Entry After	0

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	R	L	T	T	R	L	TR	LT
Maximum Queue (ft)	173	192	145	159	60	104	161	156	67	101	87	62
Average Queue (ft)	79	113	64	71	15	31	77	75	15	32	25	17
95th Queue (ft)	145	169	122	131	44	73	139	133	47	75	63	48
Link Distance (ft)			2865	2865			3996	3996			285	854
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			150	150			150	150		
Storage Blk Time (%)				0		0	0	0		0		
Queuing Penalty (veh)				0		0	0	0		0		

Intersection: 28: NCC & Sterns Connection

Movement	SB
Directions Served	R
Maximum Queue (ft)	218
Average Queue (ft)	111
95th Queue (ft)	183
Link Distance (ft)	854
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	LT	R	LTR
Maximum Queue (ft)	145	227	53	169	204	214	47	97	10	108
Average Queue (ft)	64	117	10	82	106	85	7	34	0	37
95th Queue (ft)	120	203	35	141	166	168	32	76	8	78
Link Distance (ft)		2253				1205		3996	3996	303
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	200		200	300	300		150			
Storage Blk Time (%)	0	1				1				
Queuing Penalty (veh)	0	1				4				

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	127	242	103	189	48
Average Queue (ft)	42	78	39	100	4
95th Queue (ft)	97	177	80	162	25
Link Distance (ft)	854	854	795		801
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				300	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 6

28: NCC & Sterns Connection Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.7	0.2	1.5	0.0	0.0	0.0	4.0	0.3	0.3	0.0	0.0	0.0
Total Del/Veh (s)	21.5	9.6	3.1	28.9	18.3	9.1	18.2	16.0	3.6	18.1	16.8	9.7
Travel Dist (mi)	152.0	191.2	28.4	36.9	368.6	16.4	4.0	0.8	4.0	3.7	2.0	51.2
Travel Time (hr)	5.0	4.5	0.7	1.2	10.2	0.4	0.5	0.1	0.2	0.3	0.1	3.0
Avg Speed (mph)	31	43	45	30	36	38	10	11	17	15	15	17
Fuel Used (gal)	4.1	5.2	0.8	1.3	12.4	0.5	0.2	0.0	0.1	0.1	0.1	1.9
Fuel Eff. (mpg)	37.3	37.0	36.5	29.0	29.8	31.1	24.8	28.7	40.4	25.0	24.3	26.9
HC Emissions (g)	306	435	72	76	976	56	6	1	5	9	4	122
CO Emissions (g)	6544	9700	1656	1952	23492	1245	109	24	89	180	94	2417
NOx Emissions (g)	824	1177	187	207	2597	147	13	3	12	22	11	315
Vehicles Entered	279	349	52	48	477	21	50	10	49	21	11	291
Vehicles Exited	280	351	52	48	476	21	50	10	49	21	11	290
Hourly Exit Rate	280	351	52	48	476	21	50	10	49	21	11	290
Input Volume	280	350	50	50	480	20	50	10	50	20	10	290
% of Volume	100	100	104	96	99	104	100	98	98	104	105	100

28: NCC & Sterns Connection Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	14.8
Travel Dist (mi)	859.0
Travel Time (hr)	26.1
Avg Speed (mph)	33
Fuel Used (gal)	26.6
Fuel Eff. (mpg)	32.3
HC Emissions (g)	2068
CO Emissions (g)	47504
NOx Emissions (g)	5516
Vehicles Entered	1658
Vehicles Exited	1659
Hourly Exit Rate	1659
Input Volume	1662
% of Volume	100

29: NCC & SR 120/108 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.6	0.4	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
Total Del/Veh (s)	28.3	16.8	6.1	18.0	10.4	4.8	22.8	21.6	8.6	20.4	21.6	10.2
Travel Dist (mi)	11.6	107.5	16.9	113.4	115.3	2.7	14.2	8.0	299.5	1.2	1.8	6.4
Travel Time (hr)	0.5	3.2	0.5	5.5	3.9	0.1	0.4	0.2	7.0	0.2	0.2	0.6
Avg Speed (mph)	25	34	38	21	30	30	35	37	43	7	7	10
Fuel Used (gal)	0.3	2.8	0.4	4.1	4.3	0.1	0.4	0.3	8.4	0.1	0.1	0.2
Fuel Eff. (mpg)	34.5	38.9	39.9	27.8	26.7	31.5	31.7	32.0	35.6	21.3	20.7	26.8
HC Emissions (g)	25	199	39	234	276	4	29	18	692	1	4	10
CO Emissions (g)	551	4495	855	5897	7193	127	730	441	16140	29	70	205
NOx Emissions (g)	63	531	101	605	729	12	80	50	1841	3	8	25
Vehicles Entered	28	254	40	475	483	11	18	10	393	21	30	109
Vehicles Exited	27	254	40	475	483	11	18	10	392	21	30	108
Hourly Exit Rate	27	254	40	475	483	11	18	10	392	21	30	108
Input Volume	30	250	40	480	480	10	20	10	390	20	30	110
% of Volume	91	101	101	99	101	107	89	95	101	104	101	98

29: NCC & SR 120/108 Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	13.4
Travel Dist (mi)	698.7
Travel Time (hr)	22.3
Avg Speed (mph)	31
Fuel Used (gal)	21.5
Fuel Eff. (mpg)	32.5
HC Emissions (g)	1532
CO Emissions (g)	36732
NOx Emissions (g)	4048
Vehicles Entered	1872
Vehicles Exited	1869
Hourly Exit Rate	1869
Input Volume	1871
% of Volume	100

39: Sterns & Sterns Connection Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	3.7	0.8	1.6
Total Del/Veh (s)	13.4	0.8	5.2	12.8	4.4	9.4	3.2	7.5
Travel Dist (mi)	6.3	0.1	50.1	2.7	5.9	43.1	3.2	111.4
Travel Time (hr)	0.4	0.0	2.6	0.1	0.2	2.3	0.1	5.7
Avg Speed (mph)	16	21	20	22	26	22	35	21
Fuel Used (gal)	0.3	0.0	1.8	0.1	0.1	1.1	0.1	3.5
Fuel Eff. (mpg)	25.0	15.3	27.6	37.6	41.6	37.9	38.3	31.8
HC Emissions (g)	16	2	112	4	11	63	7	214
CO Emissions (g)	320	27	2265	100	227	1390	153	4481
NOx Emissions (g)	41	4	294	11	29	158	17	553
Vehicles Entered	35	1	275	18	39	284	21	673
Vehicles Exited	35	1	276	18	39	284	21	674
Hourly Exit Rate	35	1	276	18	39	284	21	674
Input Volume	40	1	270	20	40	280	20	671
% of Volume	88	100	102	89	98	101	104	100

Total Network Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	26.1
Travel Dist (mi)	2886.8
Travel Time (hr)	88.0
Avg Speed (mph)	33
Fuel Used (gal)	94.5
Fuel Eff. (mpg)	30.5
HC Emissions (g)	7008
CO Emissions (g)	163334
NOx Emissions (g)	18651
Vehicles Entered	2603
Vehicles Exited	2601
Hourly Exit Rate	2601
Input Volume	8437
% of Volume	31

Intersection: 28: NCC & Sterns Connection

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	R	L	T	T	R	L	TR	LT
Maximum Queue (ft)	138	156	106	114	46	99	179	176	72	106	58	75
Average Queue (ft)	47	81	41	35	10	30	77	82	11	28	17	21
95th Queue (ft)	104	135	88	84	32	72	147	147	45	73	42	55
Link Distance (ft)			2871	2871			4007	4007			413	850
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			150	150			100	150		
Storage Blk Time (%)				0		0	1	4		0		
Queuing Penalty (veh)				0		0	0	1		0		

Intersection: 28: NCC & Sterns Connection

Movement	SB
Directions Served	R
Maximum Queue (ft)	186
Average Queue (ft)	92
95th Queue (ft)	156
Link Distance (ft)	850
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 29: NCC & SR 120/108

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	LT	R	LTR
Maximum Queue (ft)	79	188	70	178	192	226	62	68	6	151
Average Queue (ft)	22	91	22	88	107	82	4	16	0	66
95th Queue (ft)	58	165	55	151	169	169	33	47	6	125
Link Distance (ft)		2231				1205		4007	4007	303
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	200		200	300	300		150			
Storage Blk Time (%)		0				1				
Queuing Penalty (veh)		0				6				

Intersection: 39: Sterns & Sterns Connection

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	81	179	88	168	40
Average Queue (ft)	24	60	30	85	3
95th Queue (ft)	61	128	69	140	20
Link Distance (ft)	850	850	795		801
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				300	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 7

APPENDIX U:
2042 URBAN STREETS ANALYSIS WORKSHEETS

Arterial Level of Service

4/11/2014

Arterial Level of Service: WB SR 108

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	II	45	36.2	4.7	40.9	0.38	33.9	B
Total	II		36.2	4.7	40.9	0.38	33.9	B

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	23.4	128.8	1.02	28.6	B
Total	III		105.4	23.4	128.8	1.02	28.6	B

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	51.6	157	1.02	23.5	C
Total	III		105.4	51.6	157	1.02	23.5	C

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	71.6	216.3	1.1	18.4	C
Total	IV		144.7	71.6	216.3	1.1	18.4	C

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	14.9	159.6	1.1	24.9	B
Total	IV		144.7	14.9	159.6	1.1	24.9	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	100.8	13.4	114.2	1.4	44.2	A
Patterson Rd	I	50	10.2	37.9	48.1	0.1	7.7	F
Total	I		111	51.3	162.3	1.5	33.3	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	8.9	19.1	0.1	19.3	E
SR 219 (Kiernan Ave)	I	50	100.8	45.3	146.1	1.4	34.5	B
Total	I		111	54.2	165.2	1.5	32.8	C

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claribel Rd	II	42	65.1	40.2	105.3	0.77	26.2	C
Total	II		65.1	40.2	105.3	0.77	26.2	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pelandale Ave	II	42	65.1	32.5	97.6	0.77	28.3	B
Total	II		65.1	32.5	97.6	0.77	28.3	B

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	130.7	48.1	178.8	1.27	25.6	B
Total	III		130.7	48.1	178.8	1.27	25.6	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	23.1	153.8	1.27	29.7	B
Total	III		130.7	23.1	153.8	1.27	29.7	B

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	28.3	136.1	0.95	25.2	B
Total	III		107.8	28.3	136.1	0.95	25.2	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	62.6	170.4	0.95	20.2	C

Total	III	107.8	62.6	170.4	0.95	20.2	C

Arterial Level of Service: EB SR 219 (Kiernan Ave)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	30.6	71.9	0.63	31.6	C
Tully Rd	I	55	36.3	29.4	65.7	0.5	27.2	C
Total	I		77.6	60	137.6	1.13	29.5	C

Arterial Level of Service: WB SR 219 (Kiernan Ave)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	36.3	34	70.3	0.5	25.4	D
Total	I		36.3	34	70.3	0.5	25.4	D

Arterial Level of Service: EB SR 219 (Kiernan Ave)#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108 (McHenry Ave)	I	55	65.1	24.9	90	0.99	39.8	B
Total	I		65.1	24.9	90	0.99	39.8	B

Arterial Level of Service: WB SR 219 (Kiernan Ave)#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	65.1	28.6	93.7	0.99	38.2	B
Total	I		65.1	28.6	93.7	0.99	38.2	B

Arterial Level of Service

4/11/2014

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	22.1	127.5	1.02	28.9	B
Total	III		105.4	22.1	127.5	1.02	28.9	B

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	98.4	203.8	1.02	18.1	C
Total	III		105.4	98.4	203.8	1.02	18.1	C

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	145.1	57.4	202.5	1.1	19.6	B
Total	IV		145.1	57.4	202.5	1.1	19.6	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	145.1	13.9	159	1.1	25	B
Total	IV		145.1	13.9	159	1.1	25	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	100.8	10.6	111.4	1.4	45.3	A
Patterson Rd	I	50	10.2	45.9	56.1	0.1	6.6	F
Total	I		111	56.5	167.5	1.5	32.3	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	5.7	15.9	0.1	23.2	D
SR 219 (Kiernan Ave)	I	50	100.8	43.7	144.5	1.4	34.9	B
Total	I		111	49.4	160.4	1.5	33.7	C

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claribel Rd	II	42	65.1	31.6	96.7	0.77	28.5	B
Total	II		65.1	31.6	96.7	0.77	28.5	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pelandale Ave	II	42	65.1	86.7	151.8	0.77	18.2	D
Total	II		65.1	86.7	151.8	0.77	18.2	D

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	130.7	58.8	189.5	1.27	24.1	B
Total	III		130.7	58.8	189.5	1.27	24.1	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	22.3	153	1.27	29.9	B
Total	III		130.7	22.3	153	1.27	29.9	B

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.7	25.1	132.8	0.95	25.9	B
Total	III		107.7	25.1	132.8	0.95	25.9	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.7	150.9	258.6	0.95	13.3	E
Total	III		107.7	150.9	258.6	0.95	13.3	E

Arterial Level of Service: EB SR 219 (Kiernan Ave)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	26.6	67.9	0.63	33.5	C

Tully Rd	I	55	36.3	120	156.3	0.5	11.4	F
Total	I		77.6	146.6	224.2	1.13	18.1	E

Arterial Level of Service: WB SR 219 (Kiernan Ave)

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	36.3	29.5	65.8	0.5	27.2	C
Total	I		36.3	29.5	65.8	0.5	27.2	C

Arterial Level of Service: EB SR 219 (Kiernan Ave)#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108 (McHenry Ave)	I	55	65.1	35.7	100.8	0.99	35.5	B
Total	I		65.1	35.7	100.8	0.99	35.5	B

Arterial Level of Service: WB SR 219 (Kiernan Ave)#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	65.1	49.6	114.7	0.99	31.2	C
Total	I		65.1	49.6	114.7	0.99	31.2	C

Arterial Level of Service

4/22/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	48.5	89.8	0.63	25.3	D
Tully Rd	I	55	36.3	25.7	62	0.5	28.8	C
Total	I		77.6	74.2	151.8	1.13	26.7	D

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	21.7	70.6	0.75	38.1	B
Carver	I	55	36.3	36.7	73	0.5	24.5	D
Total	I		85.2	58.4	143.6	1.24	31.2	C

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	7.4	112.8	1.02	32.7	A
Total	III		105.4	7.4	112.8	1.02	32.7	A

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	41	146.4	1.02	25.2	B
Total	III		105.4	41	146.4	1.02	25.2	B

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	29.2	173.9	1.1	22.8	B
Total	IV		144.7	29.2	173.9	1.1	22.8	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	11.3	156	1.1	25.5	A
Total	IV		144.7	11.3	156	1.1	25.5	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	4.3	26.1	0.22	30	C
SR 108	I	50	83.2	13	96.2	1.16	43.3	A
Patterson Rd	I	50	10.2	37.4	47.6	0.1	7.7	F
Total	I		115.2	54.7	169.9	1.48	31.3	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	8.8	19	0.1	19.4	E
Charity	I	50	83.2	9.9	93.1	1.16	44.7	A
	I	50	21.8	15	36.8	0.22	21.3	D
Total	I		115.2	33.7	148.9	1.48	35.7	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	11.2	55.7	0.48	30.9	B
	II	45	31.1	14.3	45.4	0.31	24.9	C
Total	II		75.6	25.5	101.1	0.79	28.2	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	11.6	42.7	0.31	26.5	C
Pelandale Ave	II	42	44.5	35.5	80	0.48	21.5	D
Total	II		75.6	47.1	122.7	0.79	23.3	C

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	13.4	144.1	1.27	31.7	A
Total	III		130.7	13.4	144.1	1.27	31.7	A

Arterial Level of Service: EB SR 108 (Patterson St)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	130.7	26	156.7	1.27	29.2	B
Total	III		130.7	26	156.7	1.27	29.2	B

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	17.5	125.3	0.95	27.4	B
Total	III		107.8	17.5	125.3	0.95	27.4	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	56.6	164.4	0.95	20.9	C
Total	III		107.8	56.6	164.4	0.95	20.9	C

Arterial Level of Service

4/22/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	70.5	111.8	0.63	20.3	E
Tully Rd	I	55	36.3	43.1	79.4	0.5	22.5	D
Total	I		77.6	113.6	191.2	1.13	21.2	D

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	43	61.9	20.9	82.8	0.75	32.5	C
Carver	I	55	36.3	33.5	69.8	0.5	25.6	D
Total	I		98.2	54.4	152.6	1.24	29.4	C

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	8.9	114.3	1.02	32.3	A
Total	III		105.4	8.9	114.3	1.02	32.3	A

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	51.2	156.6	1.02	23.6	C
Total	III		105.4	51.2	156.6	1.02	23.6	C

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	29.2	173.9	1.1	22.8	B
Total	IV		144.7	29.2	173.9	1.1	22.8	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	13.8	158.5	1.1	25	A
Total	IV		144.7	13.8	158.5	1.1	25	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	8.9	30.7	0.22	25.5	D
SR 108	I	50	83.2	9.8	93	1.16	44.7	A
Patterson Rd	I	50	10.2	42.9	53.1	0.1	6.9	F
Total	I		115.2	61.6	176.8	1.48	30.1	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	5.9	16.1	0.1	22.9	D
Charity	I	50	83.2	11.1	94.3	1.16	44.1	A
	I	50	21.8	17.8	39.6	0.22	19.8	E
Total	I		115.2	34.8	150	1.48	35.4	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	30.3	74.8	0.48	23	C
	II	45	31.1	11.5	42.6	0.31	26.6	C
Total	II		75.6	41.8	117.4	0.79	24.3	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	17.3	48.4	0.31	23.4	C
Pelandale Ave	II	42	44.5	46.6	91.1	0.48	18.9	D
Total	II		75.6	63.9	139.5	0.79	20.5	D

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	130.7	39.5	170.2	1.27	26.9	B
Total	III		130.7	39.5	170.2	1.27	26.9	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	19.4	150.1	1.27	30.5	A
Total	III		130.7	19.4	150.1	1.27	30.5	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	15.5	123.3	0.95	27.8	B
Total	III		107.8	15.5	123.3	0.95	27.8	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	70	177.8	0.95	19.3	C
Total	III		107.8	70	177.8	0.95	19.3	C

Arterial Level of Service

4/22/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	48.5	89.8	0.63	25.3	D
Tully Rd	I	55	36.3	25.7	62	0.5	28.8	C
Total	I		77.6	74.2	151.8	1.13	26.7	D

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	21.7	70.6	0.75	38.1	B
Carver	I	55	36.3	36.7	73	0.5	24.5	D
Total	I		85.2	58.4	143.6	1.24	31.2	C

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	8.4	113.8	1.02	32.4	A
Total	III		105.4	8.4	113.8	1.02	32.4	A

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	43.3	148.7	1.02	24.8	B
Total	III		105.4	43.3	148.7	1.02	24.8	B

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	36.4	181.1	1.1	21.9	B
Total	IV		144.7	36.4	181.1	1.1	21.9	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	12.1	156.8	1.1	25.3	A
Total	IV		144.7	12.1	156.8	1.1	25.3	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	4.2	26	0.22	30.2	C
SR 108	I	50	83.2	13.4	96.6	1.16	43.1	A
Patterson Rd	I	50	10.2	37.4	47.6	0.1	7.7	F
Total	I		115.2	55	170.2	1.48	31.2	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	9	19.2	0.1	19.2	E
Charity	I	50	83.2	9.8	93	1.16	44.7	A
	I	50	21.8	14.6	36.4	0.22	21.5	D
Total	I		115.2	33.4	148.6	1.48	35.8	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	11.2	55.7	0.48	30.9	B
	II	45	31.1	14.2	45.3	0.31	25	C
Total	II		75.6	25.4	101	0.79	28.3	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	11.6	42.7	0.31	26.5	C
Pelandale Ave	II	42	44.5	35.5	80	0.48	21.5	D
Total	II		75.6	47.1	122.7	0.79	23.3	C

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	130.7	27.6	158.3	1.27	28.9	B
Total	III		130.7	27.6	158.3	1.27	28.9	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	13.6	144.3	1.27	31.7	A
Total	III		130.7	13.6	144.3	1.27	31.7	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	23.4	131.2	0.95	26.2	B
Total	III		107.8	23.4	131.2	0.95	26.2	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	88.7	196.5	0.95	17.5	D
Total	III		107.8	88.7	196.5	0.95	17.5	D

Arterial Level of Service

4/22/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	70.5	111.8	0.63	20.3	E
Tully Rd	I	55	36.3	43.1	79.4	0.5	22.5	D
Total	I		77.6	113.6	191.2	1.13	21.2	D

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	20.9	69.8	0.75	38.6	B
Carver	I	55	36.3	33.5	69.8	0.5	25.6	D
Total	I		85.2	54.4	139.6	1.24	32.1	C

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	10.6	116	1.02	31.8	A
Total	III		105.4	10.6	116	1.02	31.8	A

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	51.5	156.9	1.02	23.5	C
Total	III		105.4	51.5	156.9	1.02	23.5	C

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	38.4	183.1	1.1	21.7	B
Total	IV		144.7	38.4	183.1	1.1	21.7	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	13.9	158.6	1.1	25	A
Total	IV		144.7	13.9	158.6	1.1	25	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	8.9	30.7	0.22	25.5	D
SR 108	I	50	83.2	9.8	93	1.16	44.7	A
Patterson Rd	I	50	10.2	42.9	53.1	0.1	6.9	F
Total	I		115.2	61.6	176.8	1.48	30.1	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	5.9	16.1	0.1	22.9	D
Charity	I	50	83.2	11.2	94.4	1.16	44.1	A
	I	50	21.8	17.8	39.6	0.22	19.8	E
Total	I		115.2	34.9	150.1	1.48	35.4	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	30.3	74.8	0.48	23	C
	II	45	31.1	11.7	42.8	0.31	26.5	C
Total	II		75.6	42	117.6	0.79	24.3	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	17.3	48.4	0.31	23.4	C
Pelandale Ave	II	42	44.5	46.6	91.1	0.48	18.9	D
Total	II		75.6	63.9	139.5	0.79	20.5	D

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	130.7	42.6	173.3	1.27	26.4	B
Total	III		130.7	42.6	173.3	1.27	26.4	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	20.5	151.2	1.27	30.3	A
Total	III		130.7	20.5	151.2	1.27	30.3	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	22.5	130.3	0.95	26.4	B
Total	III		107.8	22.5	130.3	0.95	26.4	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	124.1	231.9	0.95	14.8	D
Total	III		107.8	124.1	231.9	0.95	14.8	D

Arterial Level of Service

4/22/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	41.2	82.5	0.63	27.5	C
Tully Rd	I	55	36.3	24.2	60.5	0.5	29.5	C
Total	I		77.6	65.4	143	1.13	28.4	C

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	21.4	70.3	0.75	38.3	B
Carver	I	55	36.3	33.2	69.5	0.5	25.7	D
Total	I		85.2	54.6	139.8	1.24	32.1	C

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	14.2	119.6	1.02	30.8	A
Total	III		105.4	14.2	119.6	1.02	30.8	A

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	49.8	155.2	1.02	23.8	C
Total	III		105.4	49.8	155.2	1.02	23.8	C

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	44.1	188.8	1.1	21	B
Total	IV		144.7	44.1	188.8	1.1	21	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	9.2	153.9	1.1	25.8	A
Total	IV		144.7	9.2	153.9	1.1	25.8	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	4.3	26.1	0.22	30	C
SR 108	I	50	83.2	13.2	96.4	1.16	43.2	A
Patterson Rd	I	50	10.2	37.6	47.8	0.1	7.7	F
Total	I		115.2	55.1	170.3	1.48	31.2	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	8.8	19	0.1	19.4	E
Charity	I	50	83.2	9.9	93.1	1.16	44.7	A
	I	50	21.8	14.9	36.7	0.22	21.4	D
Total	I		115.2	33.6	148.8	1.48	35.7	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	9.6	54.1	0.48	31.8	B
	II	45	31.1	14.3	45.4	0.31	24.9	C
Total	II		75.6	23.9	99.5	0.79	28.7	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	10.7	41.8	0.31	27.1	C
Pelandale Ave	II	42	44.5	32.6	77.1	0.48	22.3	C
Total	II		75.6	43.3	118.9	0.79	24	C

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	16.3	147	1.27	31.1	A
Total	III		130.7	16.3	147	1.27	31.1	A

Arterial Level of Service: EB SR 108 (Patterson Rdt)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	130.7	32.1	162.8	1.27	28.1	B
Total	III		130.7	32.1	162.8	1.27	28.1	B

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	22.7	130.5	0.95	26.3	B
Total	III		107.8	22.7	130.5	0.95	26.3	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	42.9	150.7	0.95	22.8	C
Total	III		107.8	42.9	150.7	0.95	22.8	C

Arterial Level of Service

4/22/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	47.5	88.8	0.63	25.6	D
Tully Rd	I	55	36.3	40	76.3	0.5	23.4	D
Total	I		77.6	87.5	165.1	1.13	24.6	D

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	20.3	69.2	0.75	38.9	B
Carver	I	55	36.3	33.6	69.9	0.5	25.6	D
Total	I		85.2	53.9	139.1	1.24	32.2	C

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	23.4	128.8	1.02	28.6	B
Total	III		105.4	23.4	128.8	1.02	28.6	B

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	62.5	167.9	1.02	22	C
Total	III		105.4	62.5	167.9	1.02	22	C

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	36.7	181.4	1.1	21.9	B
Total	IV		144.7	36.7	181.4	1.1	21.9	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	13.6	158.3	1.1	25.1	A
Total	IV		144.7	13.6	158.3	1.1	25.1	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	8.9	30.7	0.22	25.5	D
SR 108	I	50	83.2	10.1	93.3	1.16	44.6	A
Patterson Rd	I	50	10.2	43.6	53.8	0.1	6.9	F
Total	I		115.2	62.6	177.8	1.48	29.9	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	5.5	15.7	0.1	23.5	D
Charity	I	50	83.2	11.1	94.3	1.16	44.1	A
	I	50	21.8	17.7	39.5	0.22	19.9	E
Total	I		115.2	34.3	149.5	1.48	35.5	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	26.4	70.9	0.48	24.3	C
	II	45	31.1	13.4	44.5	0.31	25.4	C
Total	II		75.6	39.8	115.4	0.79	24.7	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	16.8	47.9	0.31	23.6	C
Pelandale Ave	II	42	44.5	44.4	88.9	0.48	19.4	D
Total	II		75.6	61.2	136.8	0.79	20.9	D

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	130.7	46.7	177.4	1.27	25.8	B
Total	III		130.7	46.7	177.4	1.27	25.8	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	22.8	153.5	1.27	29.8	B
Total	III		130.7	22.8	153.5	1.27	29.8	B

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	20.7	128.5	0.95	26.7	B
Total	III		107.8	20.7	128.5	0.95	26.7	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	67.3	175.1	0.95	19.6	C
Total	III		107.8	67.3	175.1	0.95	19.6	C

Arterial Level of Service

4/22/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	41.2	82.5	0.63	27.5	C
Tully Rd	I	55	36.3	24.2	60.5	0.5	29.5	C
Total	I		77.6	65.4	143	1.13	28.4	C

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	21.4	70.3	0.75	38.3	B
Carver	I	55	36.3	33.2	69.5	0.5	25.7	D
Total	I		85.2	54.6	139.8	1.24	32.1	C

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	14.6	120	1.02	30.7	A
Total	III		105.4	14.6	120	1.02	30.7	A

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	53.6	159	1.02	23.2	C
Total	III		105.4	53.6	159	1.02	23.2	C

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	59.6	204.3	1.1	19.4	B
Total	IV		144.7	59.6	204.3	1.1	19.4	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	9.4	154.1	1.1	25.8	A
Total	IV		144.7	9.4	154.1	1.1	25.8	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	4.3	26.1	0.22	30	C
SR 108	I	50	83.2	13.1	96.3	1.16	43.2	A
Patterson Rd	I	50	10.2	37.6	47.8	0.1	7.7	F
Total	I		115.2	55	170.2	1.48	31.2	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	8.7	18.9	0.1	19.5	E
Charity	I	50	83.2	9.9	93.1	1.16	44.7	A
	I	50	21.8	14.9	36.7	0.22	21.4	D
Total	I		115.2	33.5	148.7	1.48	35.7	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	9.6	54.1	0.48	31.8	B
	II	45	31.1	14.3	45.4	0.31	24.9	C
Total	II		75.6	23.9	99.5	0.79	28.7	B

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	10.7	41.8	0.31	27.1	C
Pelandale Ave	II	42	44.5	34.1	78.6	0.48	21.9	D
Total	II		75.6	44.8	120.4	0.79	23.7	C

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	130.7	34.3	165	1.27	27.7	B
Total	III		130.7	34.3	165	1.27	27.7	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	15.8	146.5	1.27	31.2	A
Total	III		130.7	15.8	146.5	1.27	31.2	A

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	25.5	133.3	0.95	25.8	B
Total	III		107.8	25.5	133.3	0.95	25.8	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	41.9	149.7	0.95	22.9	C
Total	III		107.8	41.9	149.7	0.95	22.9	C

Arterial Level of Service

4/22/2014

Arterial Level of Service: EB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Carver	I	55	41.3	51.2	92.5	0.63	24.6	D
Tully Rd	I	55	36.3	40	76.3	0.5	23.4	D
Total	I		77.6	91.2	168.8	1.13	24	D

Arterial Level of Service: WB NCC#1

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tully Rd	I	55	48.9	20.3	69.2	0.75	38.9	B
Carver	I	55	36.3	34.9	71.2	0.5	25.1	D
Total	I		85.2	55.2	140.4	1.24	31.9	C

Arterial Level of Service: EB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Claus Rd	III	35	105.4	25.8	131.2	1.02	28.1	B
Total	III		105.4	25.8	131.2	1.02	28.1	B

Arterial Level of Service: WB SR 108 (Atchison St)#5

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	105.4	68.3	173.7	1.02	21.2	C
Total	III		105.4	68.3	173.7	1.02	21.2	C

Arterial Level of Service: EB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Yosemite Ave	IV	27	144.7	57.3	202	1.1	19.7	B
Total	IV		144.7	57.3	202	1.1	19.7	B

Arterial Level of Service: WB SR 108 (F St)#6

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oak Ave	IV	27	144.7	13.9	158.6	1.1	25	A
Total	IV		144.7	13.9	158.6	1.1	25	A

Arterial Level of Service: NB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	I	50	21.8	8.9	30.7	0.22	25.5	D
SR 108	I	50	83.2	10.1	93.3	1.16	44.6	A
Patterson Rd	I	50	10.2	43.6	53.8	0.1	6.9	F
Total	I		115.2	62.6	177.8	1.48	29.9	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#2

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 108	I	50	10.2	5.5	15.7	0.1	23.5	D
Charity	I	50	83.2	11.1	94.3	1.16	44.1	A
	I	50	21.8	17.7	39.5	0.22	19.9	E
Total	I		115.2	34.3	149.5	1.48	35.5	B

Arterial Level of Service: NB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Galaxy Way	II	42	44.5	26.4	70.9	0.48	24.3	C
	II	45	31.1	13.4	44.5	0.31	25.4	C
Total	II		75.6	39.8	115.4	0.79	24.7	C

Arterial Level of Service: SB SR 108 (McHenry Ave)#3

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	31.1	16.8	47.9	0.31	23.6	C
Pelandale Ave	II	42	44.5	44.8	89.3	0.48	19.3	D
Total	II		75.6	61.6	137.2	0.79	20.8	D

Arterial Level of Service: EB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
1st St	III	35	130.7	49.8	180.5	1.27	25.3	B
Total	III		130.7	49.8	180.5	1.27	25.3	B

Arterial Level of Service: WB SR 108 (Patterson Rd)#4

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakdale Rd	III	35	130.7	23.5	154.2	1.27	29.7	B
Total	III		130.7	23.5	154.2	1.27	29.7	B

Arterial Level of Service: EB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
S Maag Ave	III	32	107.8	27	134.8	0.95	25.5	B
Total	III		107.8	27	134.8	0.95	25.5	B

Arterial Level of Service: WB SR 108 / SR 120 (E F St)#7

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
SR 120 (N Yosemite A	III	32	107.8	73	180.8	0.95	19	C
Total	III		107.8	73	180.8	0.95	19	C

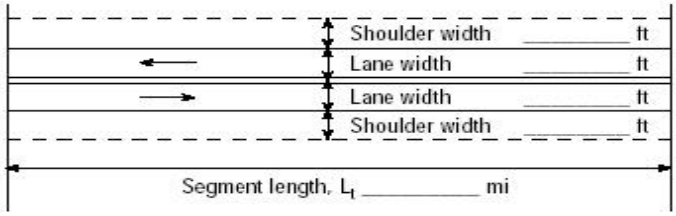
APPENDIX W:
2042 HCM TWO-LANE ANALYSIS WORKSHEETS

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	1/3/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *50%*

% Trucks and Buses , P_T *10 %*

% Recreational vehicles, P_R *0%*

Access points *mi* 7/mi

Analysis direction vol., V_d *670*veh/h

Opposing direction vol., V_o *910*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.0*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*760*	*1033*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*1.8 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.6 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.3 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*38.7 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*760*	*1033*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*70.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*18.8*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*78.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.39*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*72.7*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*752.8*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.30*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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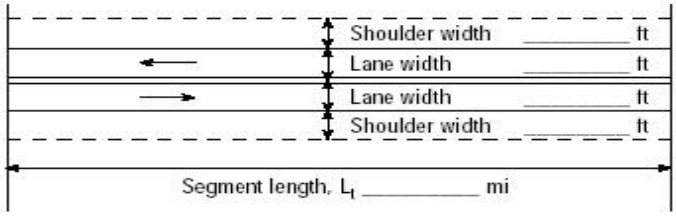
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	1/3/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *50%*

% Trucks and Buses , P_T *10 %*

% Recreational vehicles, P_R *0%*

Access points *mi* 7/mi

Analysis direction vol., V_d *310*veh/h

Opposing direction vol., V_o *830*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.0*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*352*	*942*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*1.8 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.7 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.3 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*42.5 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*352*	*942*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*46.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*20.0*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*51.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.32*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*79.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*348.3*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.91*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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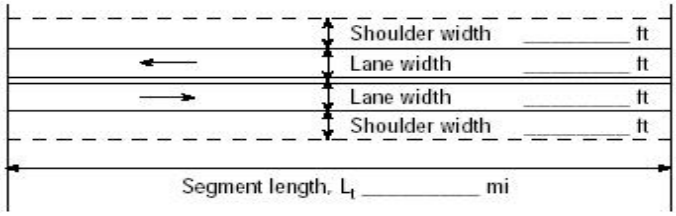
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	1/3/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.89

No-passing zone 50%

% Trucks and Buses , P_T 10 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 330veh/h

Opposing direction vol., V_o 850veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.990	0.990
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	375	965

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.7 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.3 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	42.2 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.990	0.990
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	374	965
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	48.1	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	19.5	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	53.5	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	D
Volume to capacity ratio, *v/c*	0.33

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*79.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*370.8*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.94*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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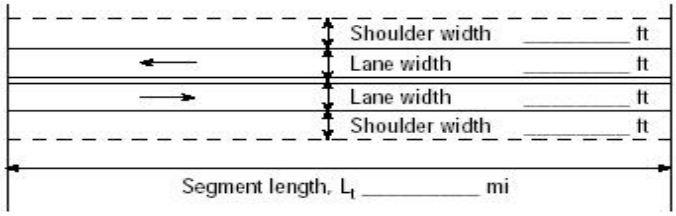
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	1/3/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.89

No-passing zone 50%

% Trucks and Buses , P_T 10 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 540veh/h

Opposing direction vol., V_o 920veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.990	0.990
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	613	1044

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.6 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.3 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	39.8 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.990	0.990
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	613	1044
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	63.8	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	19.4	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	71.0	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.38

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*74.7*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*606.7*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.19*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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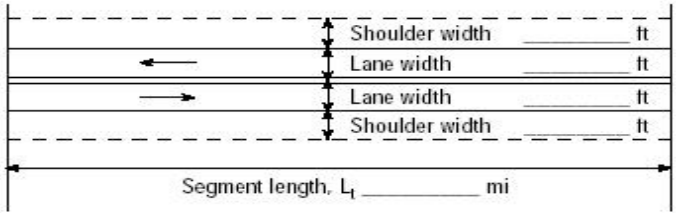
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	1/3/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *50%*

% Trucks and Buses , P_T *10 %*

% Recreational vehicles, P_R *0%*

Access points *mi* 7/mi

Analysis direction vol., V_d *550*veh/h

Opposing direction vol., V_o *920*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.0*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*624*	*1044*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*1.8 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.6 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.3 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*39.7 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*	*0.990*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*624*	*1044*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*64.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*19.4*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*71.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.38*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*74.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*618.0*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.20*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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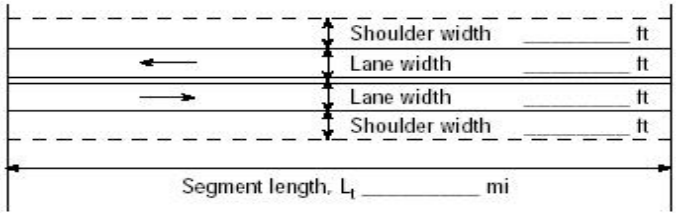
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 50%

% Trucks and Buses , P_T 11 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 980veh/h

Opposing direction vol., V_o 690veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.989	0.989
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	1043	734

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.0 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	53.3 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	38.5 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.989	0.989
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	1043	734
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	76.7	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	18.9	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	87.8	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.39

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1681*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*72.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1031.6*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.87*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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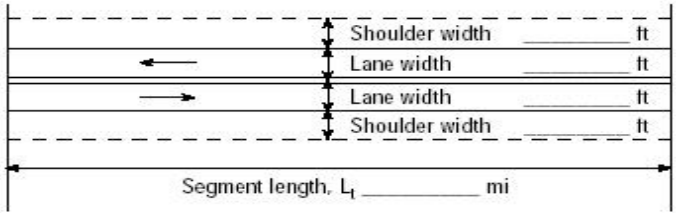
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 50%

% Trucks and Buses , P_T 11 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 940veh/h

Opposing direction vol., V_o 590veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.989	0.989
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	1000	628

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.2 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	53.3 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	39.4 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.989	0.989
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	1000	628
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	74.8	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	20.3	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	87.3	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.37

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1681*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*74.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*989.5*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.85*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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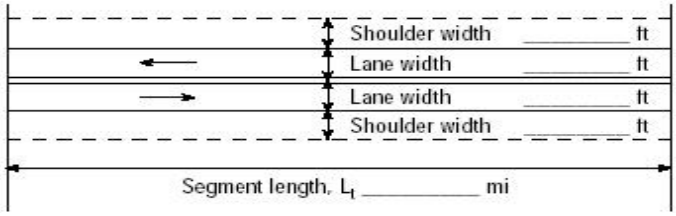
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 50%

% Trucks and Buses , P_T 11 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 960veh/h

Opposing direction vol., V_o 610veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.989	0.989
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	1022	649

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.2 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	53.3 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	39.1 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.989	0.989
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	1022	649
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	75.4	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	19.8	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	87.5	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.38

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1681*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*73.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1010.5*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.86*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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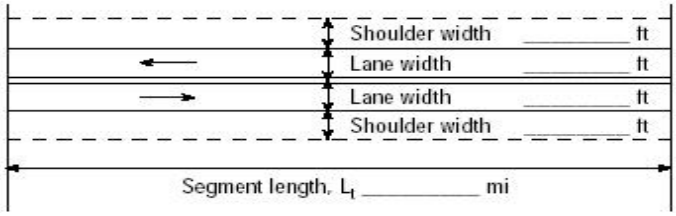
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 50%

% Trucks and Buses , P_T 11 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 980veh/h

Opposing direction vol., V_o 670veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.989	0.989
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	1043	713

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.0 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	53.3 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	38.6 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.989	0.989
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	1043	713
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	76.8	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	19.1	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	88.1	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.39

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1681*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*72.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1031.6*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.87*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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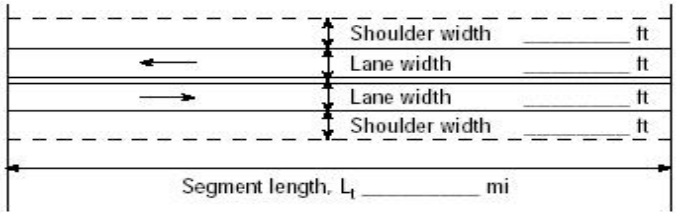
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	McHenry Avenue/Oakdale Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 50%

% Trucks and Buses , P_T 11 %

% Recreational vehicles, P_R 0%

Access points *mi* 7/mi

Analysis direction vol., V_d 990veh/h

Opposing direction vol., V_o 680veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.0

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.989	0.989
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	1054	724

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	1.8 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.0 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	53.3 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	38.4 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.989	0.989
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	1054	724
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	76.6	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	18.8	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	87.7	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.39

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1681*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*72.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1042.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.88*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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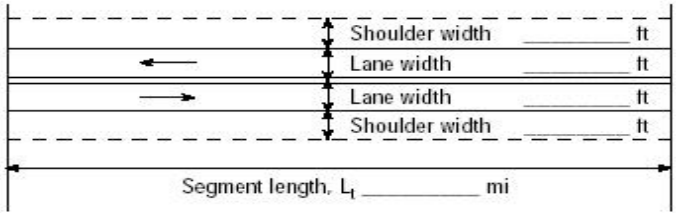
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *820*veh/h

Opposing direction vol., V_o *1010*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*933*	*1149*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.7 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*36.1 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*932*	*1148*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*77.8*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*15.7*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*84.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.44*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*68.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*921.3*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.25*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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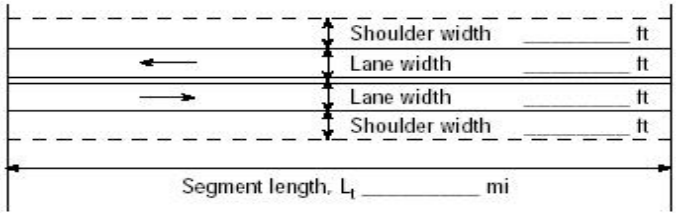
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *150*veh/h

Opposing direction vol., V_o *460*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*171*	*523*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.8 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*45.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*171*	*523*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*24.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*36.0*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*33.4*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.18*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1661*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*86.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*168.5*
Effective width, Wv (Eq. 15-29) ft	*28.50*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.21*
Bicycle level of service (Exhibit 15-4)	*D*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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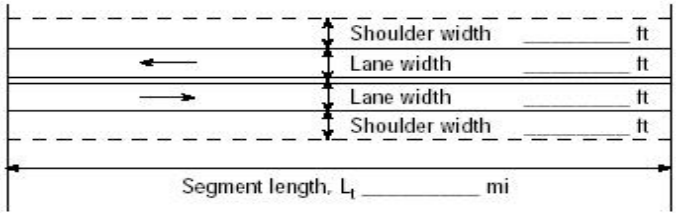
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *220*veh/h

Opposing direction vol., V_o *510*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*250*	*580*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.6 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*45.0 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*250*	*580*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*33.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*32.7*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*42.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.20*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*84.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*247.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.59*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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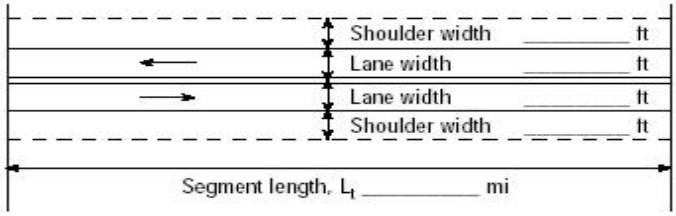
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *550*veh/h

Opposing direction vol., V_o *770*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*625*	*876*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.9 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*40.4 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*625*	*876*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*62.8*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*24.0*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*72.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.33*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*76.3*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*618.0*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.05*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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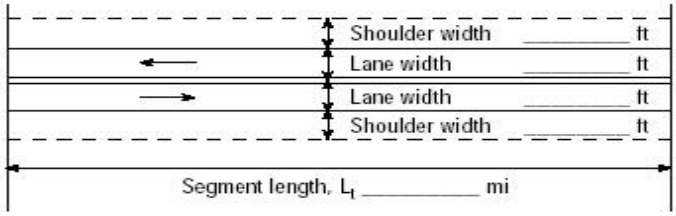
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *590*veh/h

Opposing direction vol., V_o *820*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*671*	*933*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.8 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*39.7 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*671*	*932*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*65.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*22.4*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*74.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.35*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*74.9*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*662.9*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.09*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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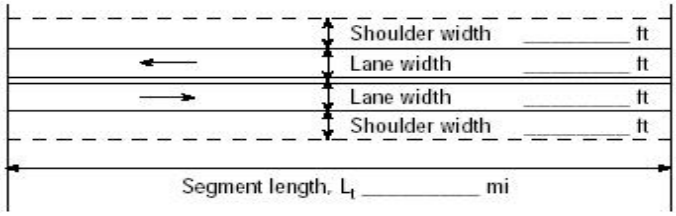
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *970*veh/h

Opposing direction vol., V_o *810*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*1033*	*863*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.9 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*37.3 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*1033*	*863*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*77.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*18.3*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*87.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.39*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*70.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1021.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.31*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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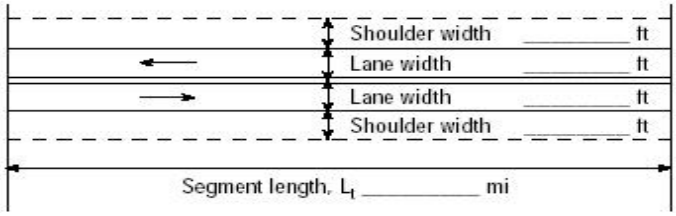
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *570*veh/h

Opposing direction vol., V_o *260*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*607*	*277*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*3.0 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*43.1 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*607*	*277*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*53.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*32.2*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*75.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.22*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1622*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1680*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*81.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*600.0*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.04*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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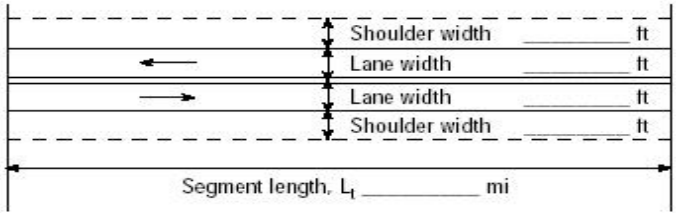
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *660*veh/h

Opposing direction vol., V_o *330*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*703*	*352*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.6 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*42.2 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*703*	*352*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*60.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*29.7*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*79.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.26*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1641*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1680*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*79.7*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*694.7*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.11*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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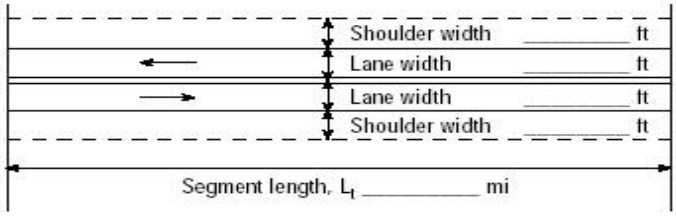
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *890*veh/h

Opposing direction vol., V_o *720*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*948*	*767*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.1 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*38.6 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*948*	*767*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*74.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*21.0*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*85.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.36*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*72.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*936.8*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.26*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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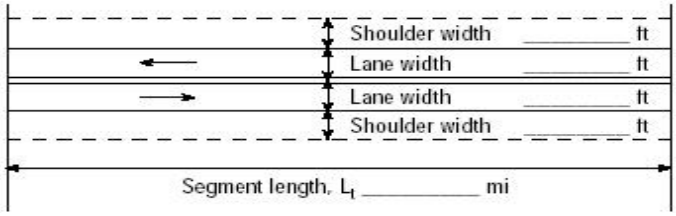
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Claus Road/Crane Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *60%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *970*veh/h

Opposing direction vol., V_o *780*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.7*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*1033*	*831*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.0 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*37.6 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*1033*	*831*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*77.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*18.7*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*87.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.40*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*70.9*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1021.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.31*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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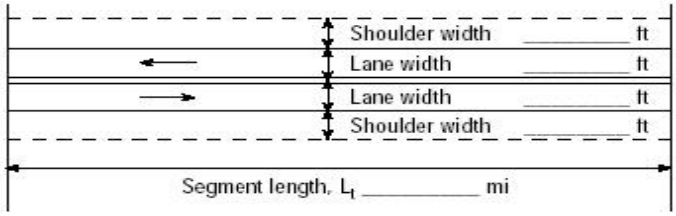
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *40%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *870*veh/h

Opposing direction vol., V_o *880*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *1.2*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*989*	*1001*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.3 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*43.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*27.3 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*989*	*1001*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*77.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*15.9*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*85.4*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.41*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*63.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*977.5*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.28*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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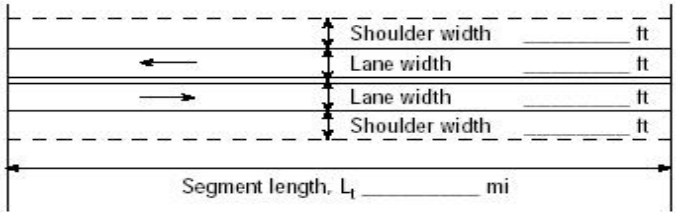
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.89

No-passing zone 40%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 8/mi

Analysis direction vol., V_d 530veh/h

Opposing direction vol., V_o 550veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 1.2

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	603	625

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	45.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.3 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	43.0 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	33.2 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	603	625
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	57.8	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	28.3	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	71.7	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.26

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*77.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*595.5*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.03*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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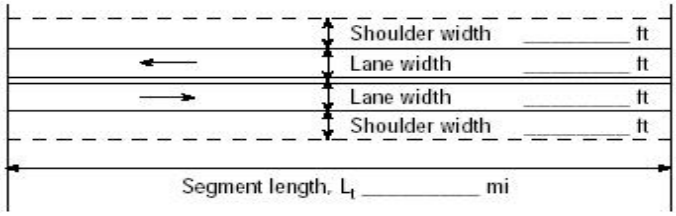
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.89

No-passing zone 40%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 8/mi

Analysis direction vol., V_d 610veh/h

Opposing direction vol., V_o 650veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 1.2

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	694	739

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	45.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.3 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	43.0 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	31.6 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	694	739
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	64.1	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	23.1	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	75.3	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.30

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*73.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*685.4*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.10*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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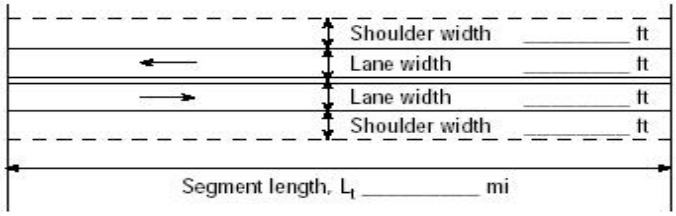
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *40%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *470*veh/h

Opposing direction vol., V_o *400*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *1.2*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*535*	*455*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.4 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*43.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*34.9 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*534*	*455*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*52.7*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*33.0*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*70.5*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.21*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1661*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*81.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*528.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.97*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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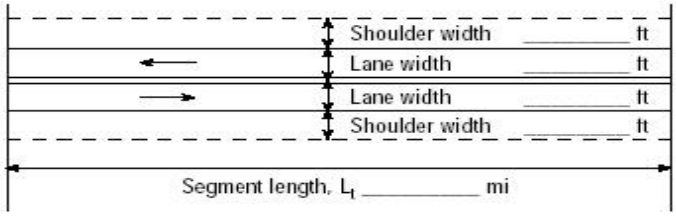
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *40%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *510*veh/h

Opposing direction vol., V_o *450*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *1.2*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*580*	*512*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.4 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*43.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*34.1 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*580*	*512*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*56.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*30.9*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*72.4*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.23*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1661*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*79.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*573.0*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.01*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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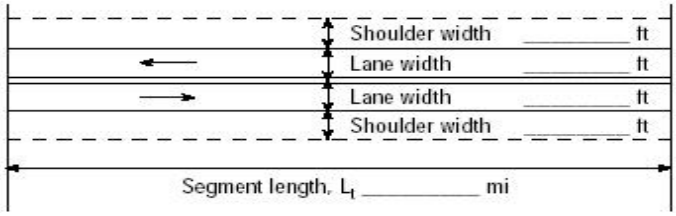
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *40%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *950*veh/h

Opposing direction vol., V_o *1010*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *1.2*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*1012*	*1076*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.3 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*43.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*26.5 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*1012*	*1076*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*79.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.7*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*86.1*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.43*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*61.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1000.0*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.29*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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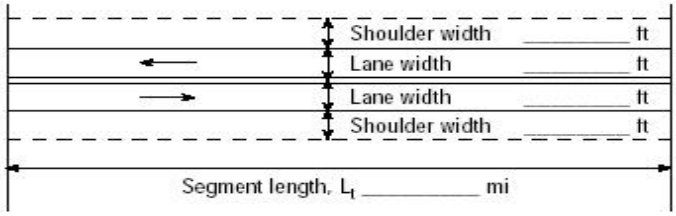
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 40%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 8/mi

Analysis direction vol., V_d 690veh/h

Opposing direction vol., V_o 790veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 1.2

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	735	842

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	45.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.3 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	43.0 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	30.5 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	735	842
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	67.2	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	21.0	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	77.0	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.33

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*70.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*726.3*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.13*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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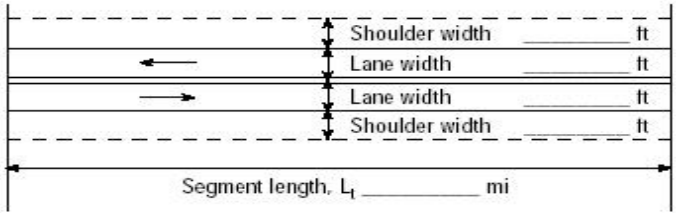
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 40%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 8/mi

Analysis direction vol., V_d 780veh/h

Opposing direction vol., V_o 860veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 1.2

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	831	916

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	45.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.3 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	43.0 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	29.1 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	831	916
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	71.5	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	19.0	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	80.5	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.37

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*67.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*821.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.19*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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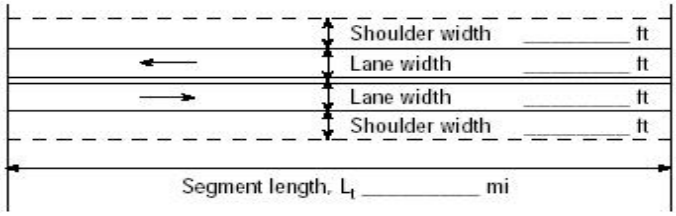
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 40%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 8/mi

Analysis direction vol., V_d 640veh/h

Opposing direction vol., V_o 730veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 1.2

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	682	778

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	45.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	2.0 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.3 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	43.0 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	31.4 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	682	778
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	64.5	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	22.5	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	75.0	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.30

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*73.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*673.7*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.09*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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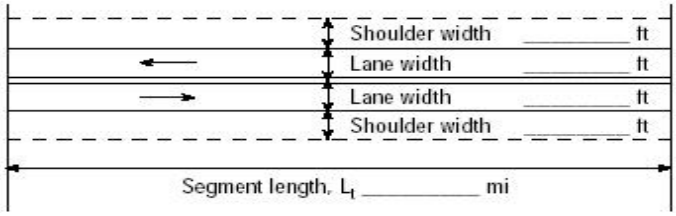
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 108
Agency or Company	Fehr & Peers	From/To	Crane Road/Oak Avenue
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *40%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *720*veh/h

Opposing direction vol., V_o *790*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *1.2*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*767*	*842*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.3 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*43.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*30.2 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*767*	*842*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*68.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*20.7*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*78.4*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.34*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*70.3*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*757.9*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.15*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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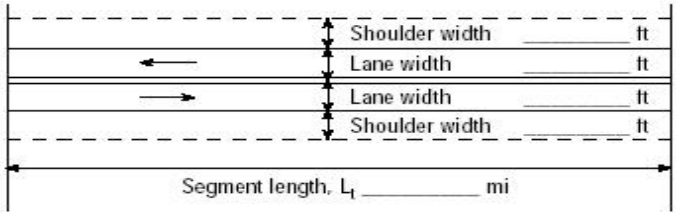
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *75%*

% Trucks and Buses , P_T *15 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *900*veh/h

Opposing direction vol., V_o *1010*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*1027*	*1152*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.7 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*29.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*1026*	*1152*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*80.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*15.3*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*87.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.46*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*62.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1011.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*7.73*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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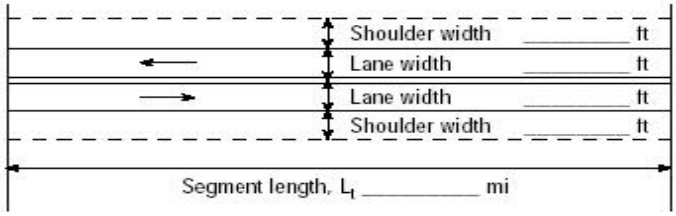
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *75%*

% Trucks and Buses , P_T *15 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *900*veh/h

Opposing direction vol., V_o *1010*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*1027*	*1152*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.7 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*29.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*1026*	*1152*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*80.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*15.3*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*87.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.46*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*62.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1011.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*7.73*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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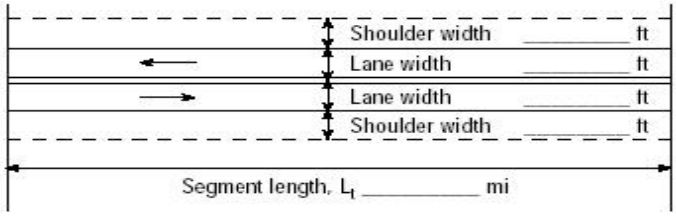
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *75%*

% Trucks and Buses , P_T *15 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *520*veh/h

Opposing direction vol., V_o *630*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*593*	*719*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.3 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*36.0 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*593*	*718*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*59.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*29.0*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*72.4*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.28*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1675*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*75.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*584.3*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*7.45*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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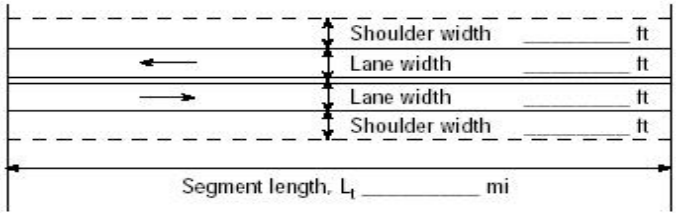
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *75%*

% Trucks and Buses , P_T *15 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *900*veh/h

Opposing direction vol., V_o *1010*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*1027*	*1152*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.7 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*29.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*1026*	*1152*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*80.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*15.3*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*87.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.46*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*62.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1011.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*7.73*
Bicycle level of service (Exhibit 15-4)	*F*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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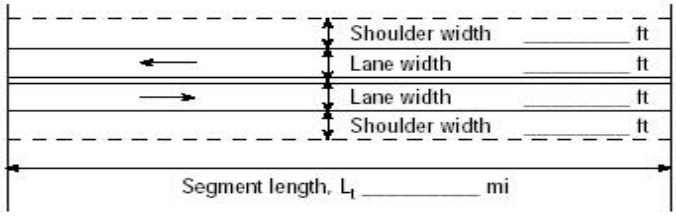
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *75%*

% Trucks and Buses , P_T *15 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *630*veh/h

Opposing direction vol., V_o *660*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*719*	*753*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.2 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*34.9 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.985*	*0.985*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*718*	*753*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*65.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*25.9*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*78.2*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.31*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1675*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*73.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*707.9*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*7.55*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
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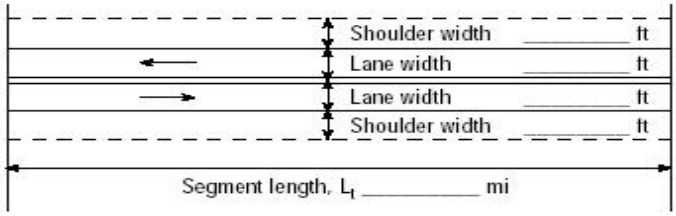
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *75%*

% Trucks and Buses , P_T *12 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *10*/mi

Analysis direction vol., V_d *1160*veh/h

Opposing direction vol., V_o *1170*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *3.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*1236*	*1247*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*50.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.7 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*47.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*27.5 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.988*	*0.988*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*1236*	*1246*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*85.7*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*11.5*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*91.4*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.51*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*58.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1221.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.40*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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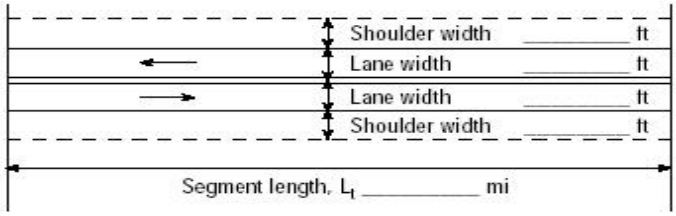
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 75%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 10/mi

Analysis direction vol., V_d 1160veh/h

Opposing direction vol., V_o 1170veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 3.1

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	1236	1247

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	50.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	2.5 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.7 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	47.5 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	27.5 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	1236	1246
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	85.7	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	11.5	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	91.4	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.51

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*58.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1221.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.40*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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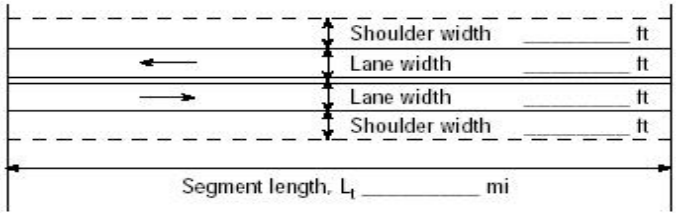
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 75%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 10/mi

Analysis direction vol., V_d 700veh/h

Opposing direction vol., V_o 740veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 3.1

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	746	788

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	50.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	2.5 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.1 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	47.5 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	34.5 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	746	788
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	66.8	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	24.9	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	78.9	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.32

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1680*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*72.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*736.8*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.14*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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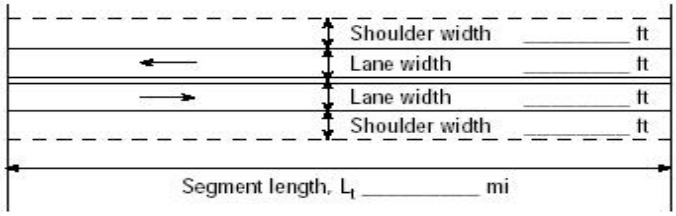
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 75%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 10/mi

Analysis direction vol., V_d 1160veh/h

Opposing direction vol., V_o 1170veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 3.1

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	1236	1247

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	50.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	2.5 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.7 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	47.5 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	27.5 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	1236	1246
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	85.7	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	11.5	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	91.4	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.51

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*58.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1221.1*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.40*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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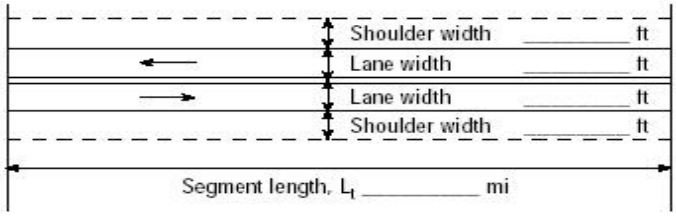
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Maag Avenue/Wamble Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 75%

% Trucks and Buses , P_T 12 %

% Recreational vehicles, P_R 0%

Access points *mi* 10/mi

Analysis direction vol., V_d 870veh/h

Opposing direction vol., V_o 860veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 3.1

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.988	0.988
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	927	916

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	50.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	2.5 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	0.9 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	47.5 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	32.3 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.988	0.988
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	927	916
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	74.7	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	20.3	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	84.9	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	E
Volume to capacity ratio, *v/c*	0.38

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*68.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*915.8*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.25*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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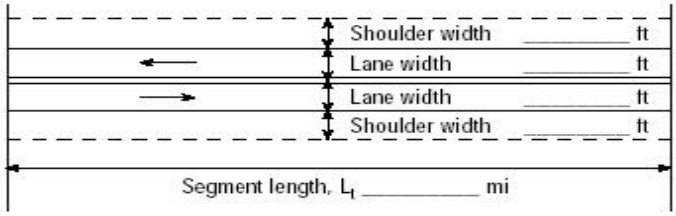
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *20%*

% Trucks and Buses , P_T *18 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *2*/mi

Analysis direction vol., V_d *340*veh/h

Opposing direction vol., V_o *400*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*389*	*458*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.2 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*54.5 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*46.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*389*	*458*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*43.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*30.6*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*57.1*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.18*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1641*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*85.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*382.0*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*8.86*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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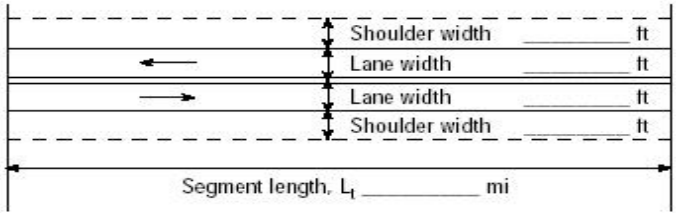
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *20%*

% Trucks and Buses , P_T *18 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *2*/mi

Analysis direction vol., V_d *340*veh/h

Opposing direction vol., V_o *400*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*389*	*458*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.2 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*54.5 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*46.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*389*	*458*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*43.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*30.6*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*57.1*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.18*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1641*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*85.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*382.0*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*8.86*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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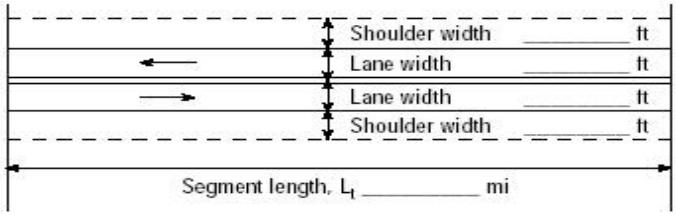
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *20%*

% Trucks and Buses , P_T *18 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *2*/mi

Analysis direction vol., V_d *340*veh/h

Opposing direction vol., V_o *400*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*389*	*458*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*0.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.2 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*54.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*46.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*389*	*458*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*43.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*30.6*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*57.1*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.18*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1641*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*85.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*382.0*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*8.86*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
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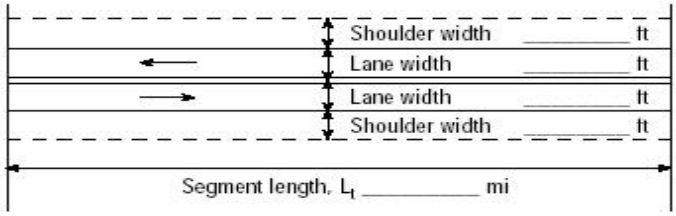
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *20%*

% Trucks and Buses , P_T *18 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *2*/mi

Analysis direction vol., V_d *340*veh/h

Opposing direction vol., V_o *400*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*389*	*458*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*0.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.2 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*54.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*46.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*389*	*458*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*43.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*30.6*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*57.1*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.18*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1641*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*85.8*
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Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*382.0*
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Bicycle level of service (Exhibit 15-4)	*F*

Notes

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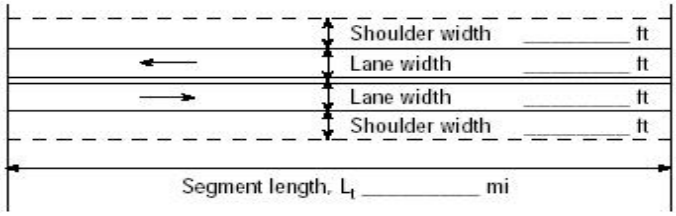
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.89*

No-passing zone *20%*

% Trucks and Buses , P_T *18 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *2*/mi

Analysis direction vol., V_d *340*veh/h

Opposing direction vol., V_o *400*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *2.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.1*
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Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*389*	*458*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
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Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*0.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.2 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*54.5 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*46.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*389*	*458*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*43.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*30.6*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*57.1*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.18*

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1641*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*85.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*382.0*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*8.86*
Bicycle level of service (Exhibit 15-4)	*F*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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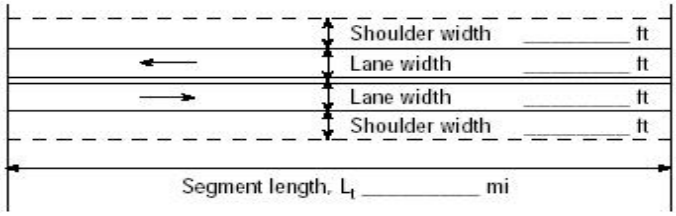
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 No Project

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 20%

% Trucks and Buses , P_T 10 %

% Recreational vehicles, P_R 0%

Access points *mi* 2/mi

Analysis direction vol., V_d 460veh/h

Opposing direction vol., V_o 410veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.5

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.990	0.990
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	489	436

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	0.5 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.2 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	54.5 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	46.1 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.990	0.990
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	489	436
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	49.6	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	29.6	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	65.2	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	D
Volume to capacity ratio, *v/c*	0.19

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1651*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*84.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*484.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.08*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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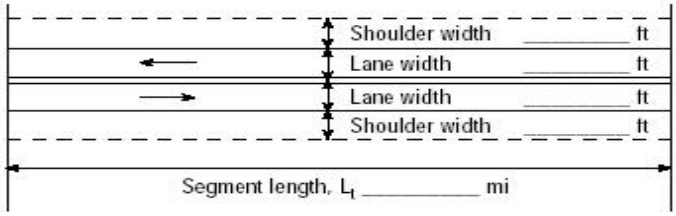
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 20%

% Trucks and Buses , P_T 10 %

% Recreational vehicles, P_R 0%

Access points *mi* 2/mi

Analysis direction vol., V_d 460veh/h

Opposing direction vol., V_o 410veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.5

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	0.990	0.990
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	489	436

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	0.5 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.2 mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	54.5 mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	46.1 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	0.990	0.990
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	489	436
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	49.6	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	29.6	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	65.2	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	D
Volume to capacity ratio, *v/c*	0.19

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1651*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*84.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*484.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.08*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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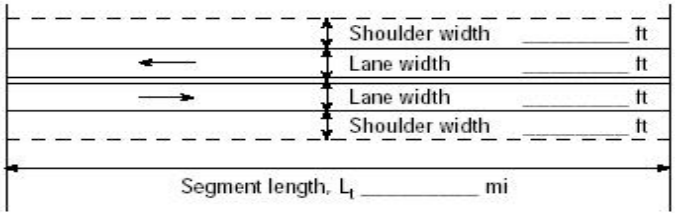
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 20%

% Trucks and Buses , P_T 10 %

% Recreational vehicles, P_R 0%

Access points *mi* 2/mi

Analysis direction vol., V_d 460veh/h

Opposing direction vol., V_o 410veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.5

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.990	0.990
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	489	436

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	0.5 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.2 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	54.5 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	46.1 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.990	0.990
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	489	436
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	49.6	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	29.6	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	65.2	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	D
Volume to capacity ratio, *v/c*	0.19

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1651*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*84.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*484.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.08*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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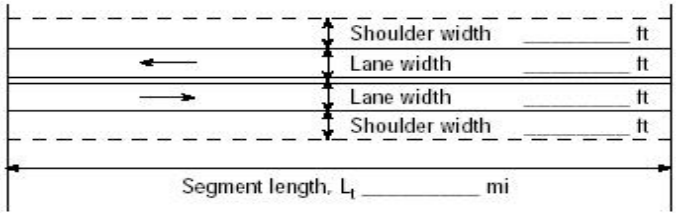
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 20%

% Trucks and Buses , P_T 10 %

% Recreational vehicles, P_R 0%

Access points *mi* 2/mi

Analysis direction vol., V_d 460veh/h

Opposing direction vol., V_o 410veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.5

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.990	0.990
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	489	436

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	0.5 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.2 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	54.5 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	46.1 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.990	0.990
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	489	436
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	49.6	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	29.6	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	65.2	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	D
Volume to capacity ratio, *v/c*	0.19

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1651*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*84.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*484.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.08*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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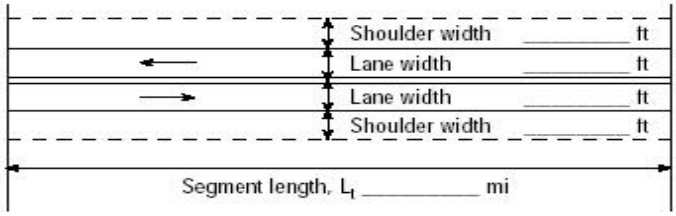
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	KC	Highway / Direction of Travel	SR 120
Agency or Company	Fehr & Peers	From/To	Wamble Road/Lancaster Road
Date Performed	12/24/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description: *North County Corridor PA/ED*

Input Data



☑ Class I highway ☐ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 20%

% Trucks and Buses , P_T 10 %

% Recreational vehicles, P_R 0%

Access points *mi* 2/mi

Analysis direction vol., V_d 460veh/h

Opposing direction vol., V_o 410veh/h

Shoulder width ft 6.0

Lane Width ft 12.0

Segment Length mi 2.5

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.990	0.990
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	489	436

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	55.0 mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	0.0 mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	0.5 mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	1.2 mi/h	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	54.5 mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	46.1 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.990	0.990
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	489	436
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	49.6	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	29.6	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	65.2	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	D
Volume to capacity ratio, *v/c*	0.19

Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1651*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*84.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*484.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.08*
Bicycle level of service (Exhibit 15-4)	*E*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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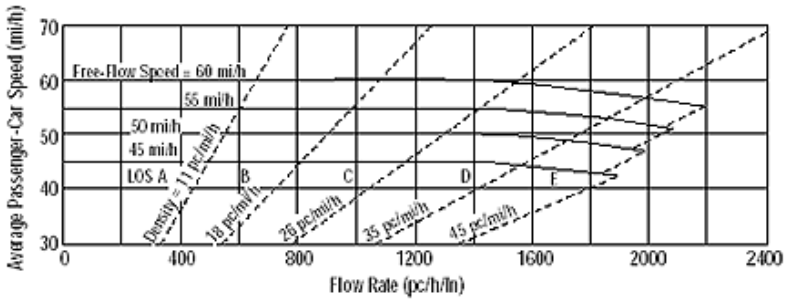
APPENDIX V:
2042 NCC HCM FREEWAY/EXPRESSWAY ANALYSIS WORKSHEETS

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	680	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	381
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.9
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*357.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.23*
Bicycle level of service (Exhibit 15-4)	*F*

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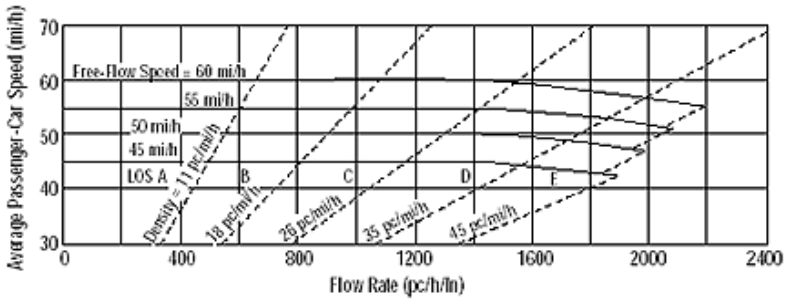
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	560	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	313
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.7
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*294.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.13*
Bicycle level of service (Exhibit 15-4)	*F*

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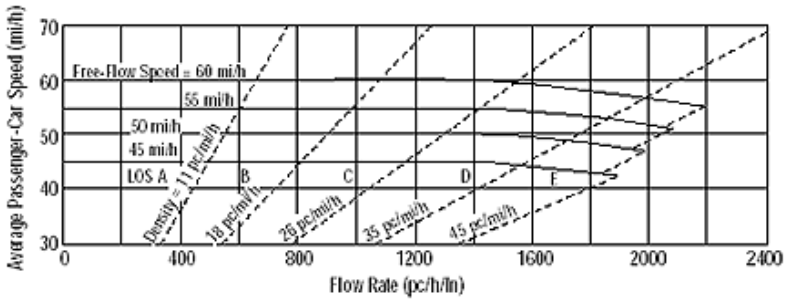
MULTILANE HIGHWAYS WORKSHEET(Direct 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	730	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	409
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.4
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*384.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.27*
Bicycle level of service (Exhibit 15-4)	*F*

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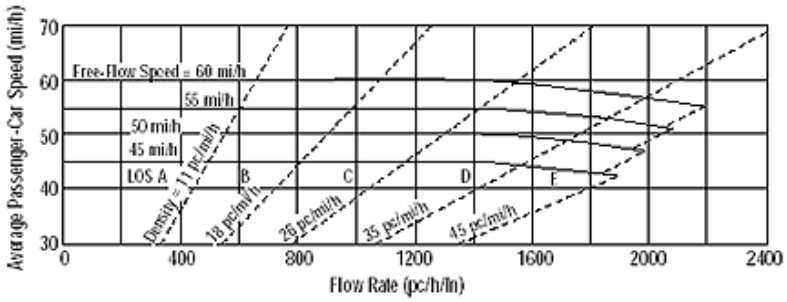
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	470	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	263
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*247.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.04*
Bicycle level of service (Exhibit 15-4)	*F*

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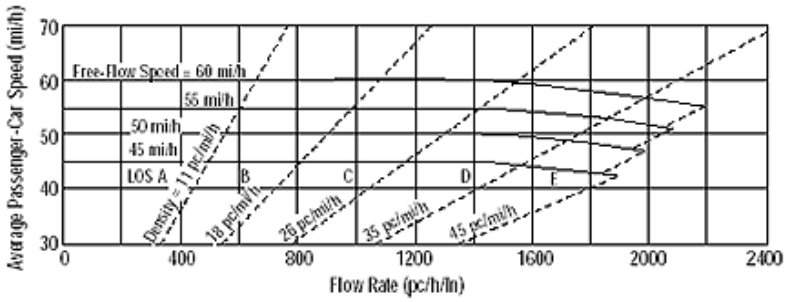
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	820	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	459
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*431.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.33*
Bicycle level of service (Exhibit 15-4)	*F*

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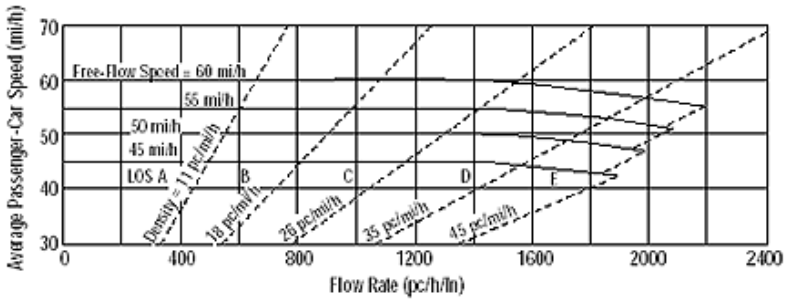
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	590	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	330
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*310.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.16*
Bicycle level of service (Exhibit 15-4)	*F*

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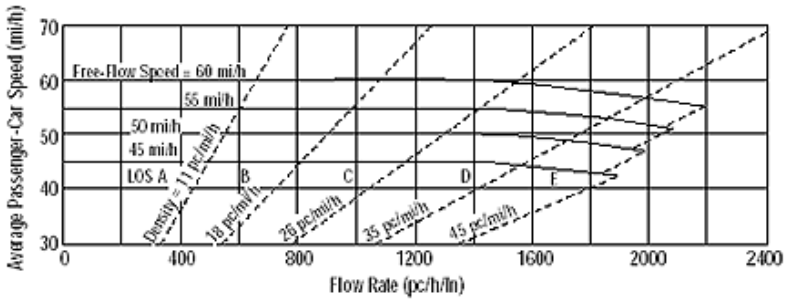
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	730	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	409
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.4
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*384.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.27*
Bicycle level of service (Exhibit 15-4)	*F*

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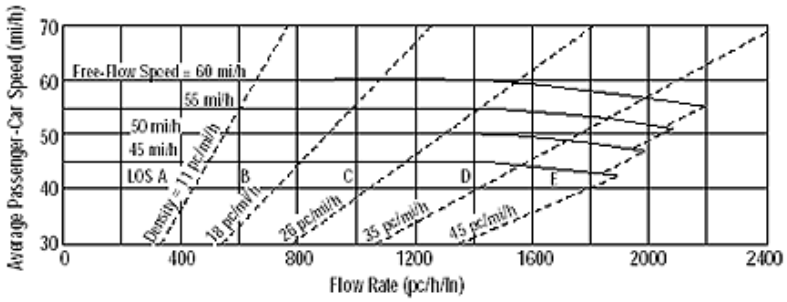
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	500	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	280
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*263.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.07*
Bicycle level of service (Exhibit 15-4)	*F*

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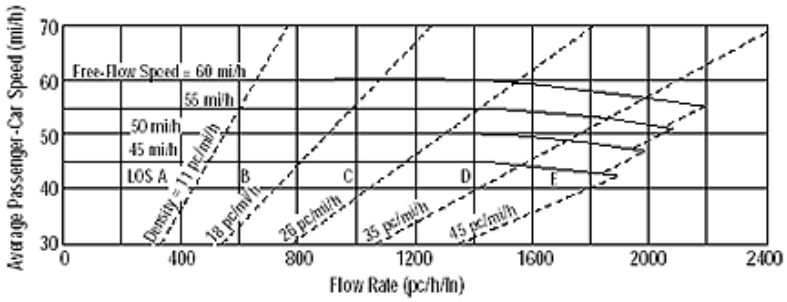
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1260	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	470
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.5
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*442.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.34*
Bicycle level of service (Exhibit 15-4)	*F*

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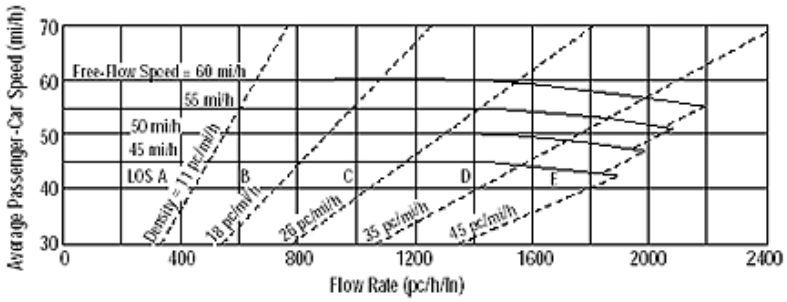
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1260	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	470
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.5
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*442.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.34*
Bicycle level of service (Exhibit 15-4)	*F*

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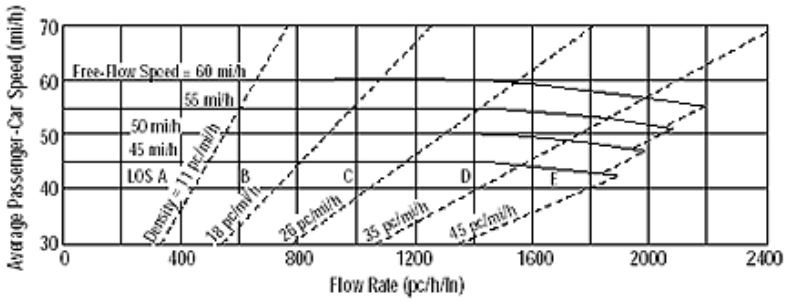
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1220	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	455
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*428.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.32*
Bicycle level of service (Exhibit 15-4)	*F*

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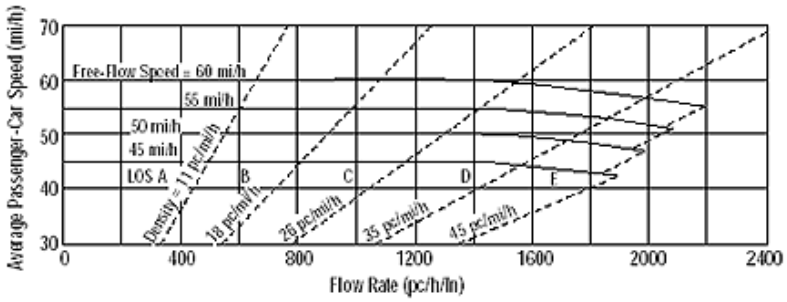
MULTILANE HIGHWAYS WORKSHEET(Direct 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1220	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	455
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*428.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.32*
Bicycle level of service (Exhibit 15-4)	*F*

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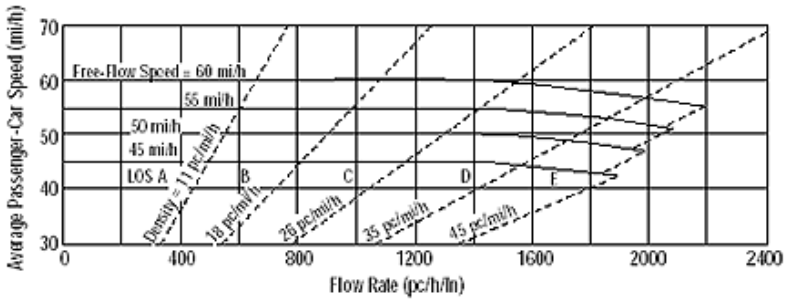
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2010	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	751
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*705.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.57*
Bicycle level of service (Exhibit 15-4)	*F*

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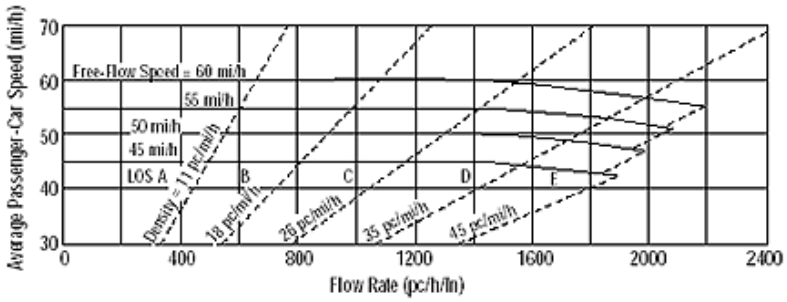
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2010	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	751
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*705.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.57*
Bicycle level of service (Exhibit 15-4)	*F*

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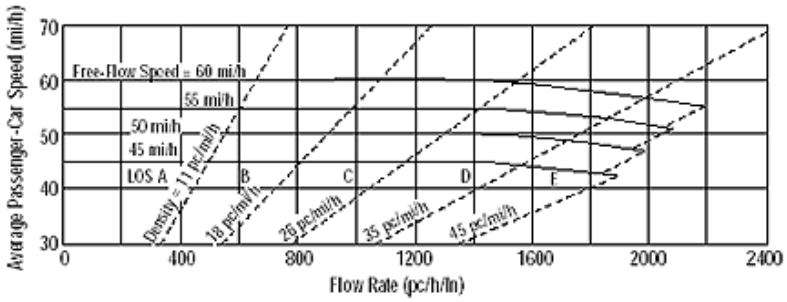
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1960	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	732
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.3
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*687.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.56*
Bicycle level of service (Exhibit 15-4)	*F*

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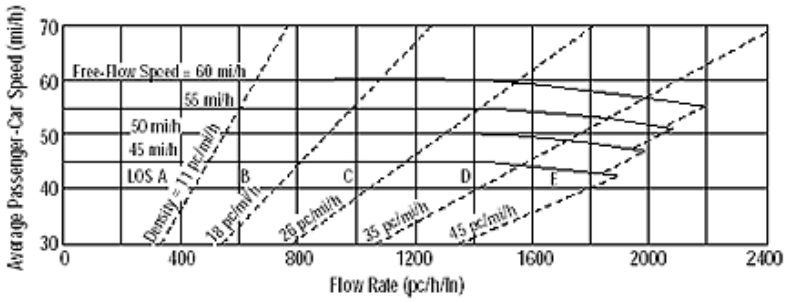
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1960	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	732
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.3
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*687.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.56*
Bicycle level of service (Exhibit 15-4)	*F*

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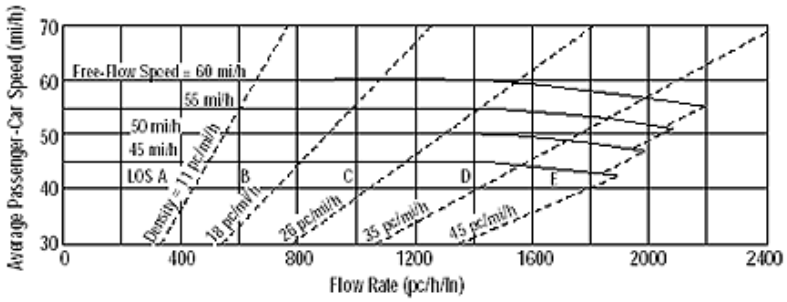
MULTILANE HIGHWAYS WORKSHEET(Direct 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1860	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1042
Speed, S (mi/h)	55.0
D (pc/mi/ln)	18.9
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*978.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.74*
Bicycle level of service (Exhibit 15-4)	*F*

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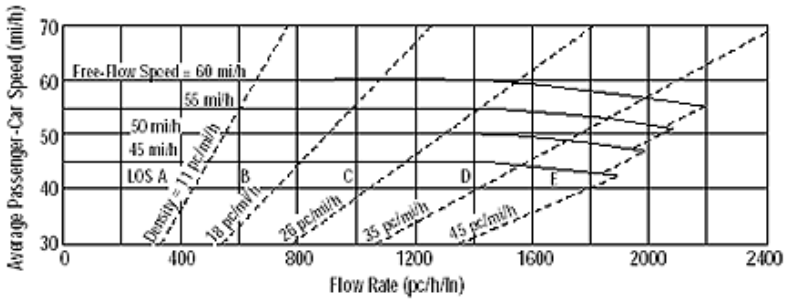
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1820	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1020
Speed, S (mi/h)	55.0
D (pc/mi/ln)	18.5
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*957.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.73*
Bicycle level of service (Exhibit 15-4)	*F*

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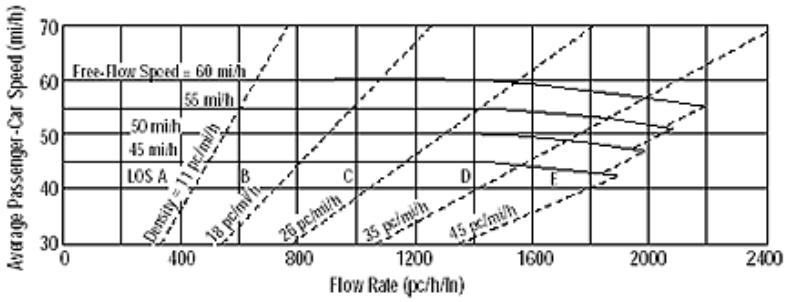
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1300	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	728
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.2
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*684.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.56*
Bicycle level of service (Exhibit 15-4)	*F*

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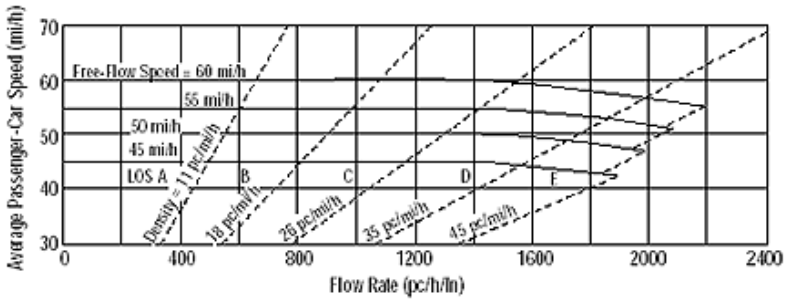
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1200	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	672
Speed, S (mi/h)	55.0
D (pc/mi/ln)	12.2
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*631.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.52*
Bicycle level of service (Exhibit 15-4)	*F*

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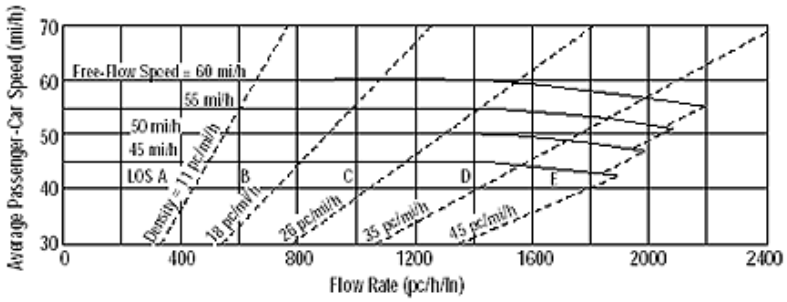
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1740	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	975
Speed, S (mi/h)	55.0
D (pc/mi/ln)	17.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*915.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.71*
Bicycle level of service (Exhibit 15-4)	*F*

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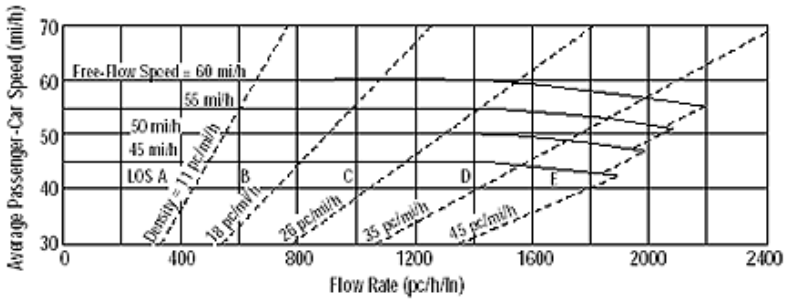
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1660	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	930
Speed, S (mi/h)	55.0
D (pc/mi/ln)	16.9
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*873.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.68*
Bicycle level of service (Exhibit 15-4)	*F*

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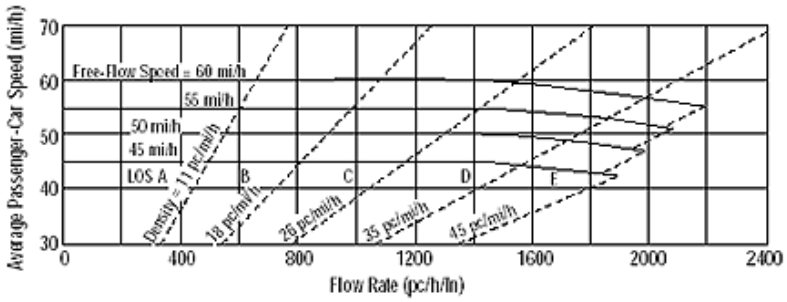
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1210	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	678
Speed, S (mi/h)	55.0
D (pc/mi/ln)	12.3
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*636.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.52*
Bicycle level of service (Exhibit 15-4)	*F*

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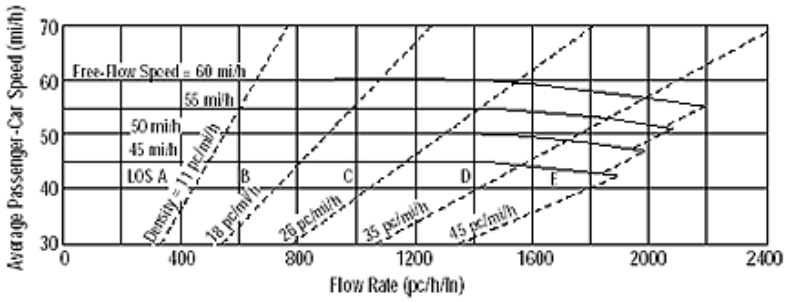
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1100	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	616
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.2
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*578.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.47*
Bicycle level of service (Exhibit 15-4)	*F*

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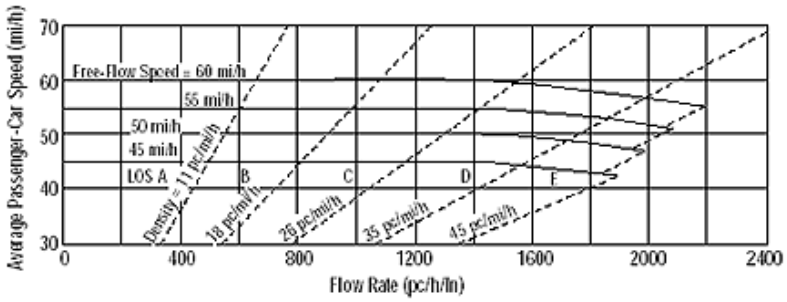
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1530	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	857
Speed, S (mi/h)	55.0
D (pc/mi/ln)	15.6
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*805.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.64*
Bicycle level of service (Exhibit 15-4)	*F*

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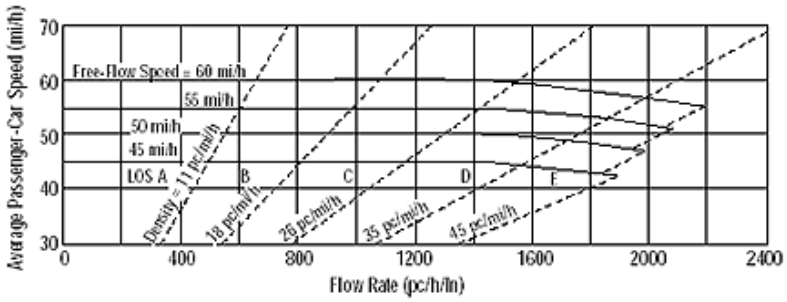
MULTILANE HIGHWAYS WORKSHEET(Direct 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1440	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	807
Speed, S (mi/h)	55.0
D (pc/mi/ln)	14.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*757.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.61*
Bicycle level of service (Exhibit 15-4)	*F*

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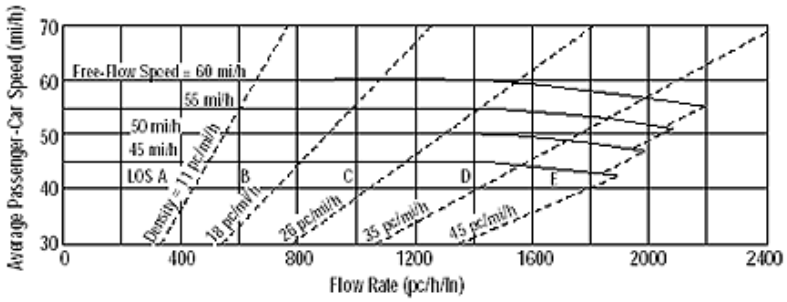
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1120	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	627
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.4
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*589.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.48*
Bicycle level of service (Exhibit 15-4)	*F*

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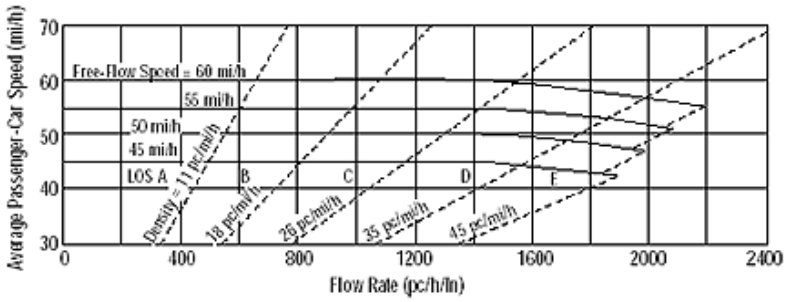
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	990	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	554
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*521.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.42*
Bicycle level of service (Exhibit 15-4)	*F*

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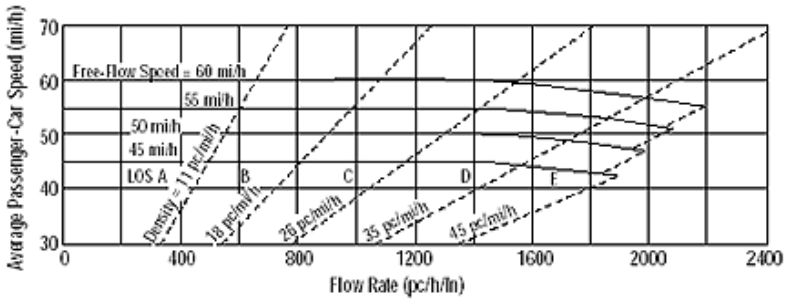
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1740	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	975
Speed, S (mi/h)	55.0
D (pc/mi/ln)	17.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*915.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.71*
Bicycle level of service (Exhibit 15-4)	*F*

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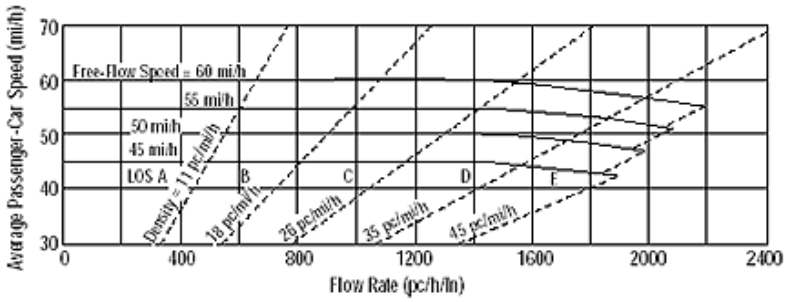
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	800	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	448
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*421.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.31*
Bicycle level of service (Exhibit 15-4)	*F*

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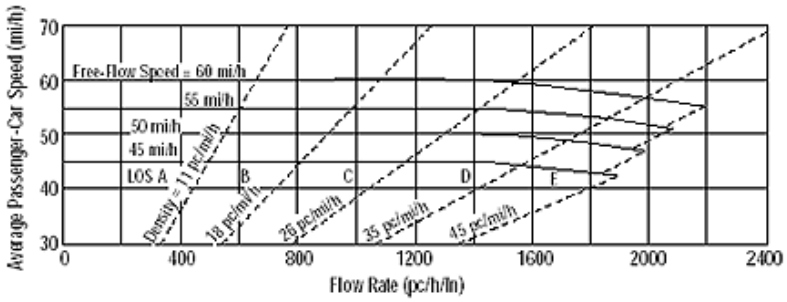
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1130	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	633
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.5
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*594.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.49*
Bicycle level of service (Exhibit 15-4)	*F*

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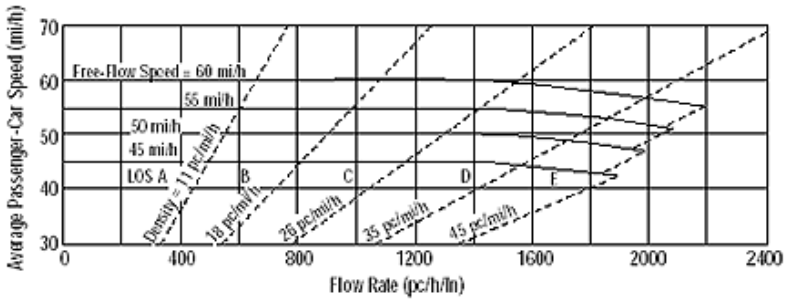
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1020	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	571
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.4
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*536.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.44*
Bicycle level of service (Exhibit 15-4)	*F*

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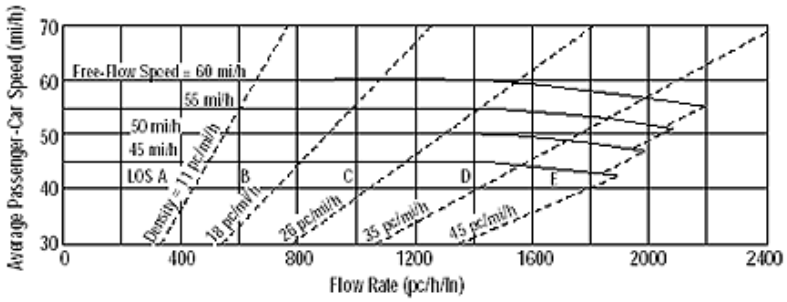
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	420	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	235
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*221.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.99*
Bicycle level of service (Exhibit 15-4)	*F*

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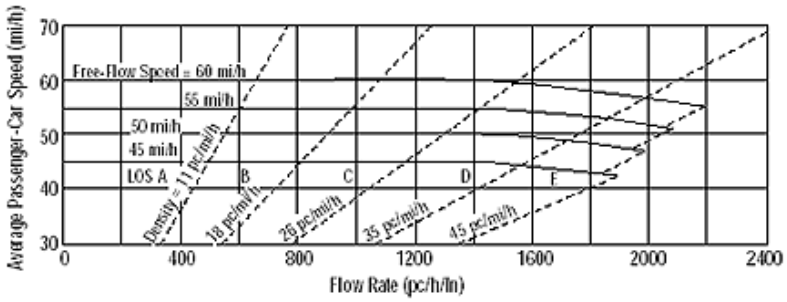
MULTILANE HIGHWAYS WORKSHEET(Direct 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	400	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	224
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*210.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.96*
Bicycle level of service (Exhibit 15-4)	*F*

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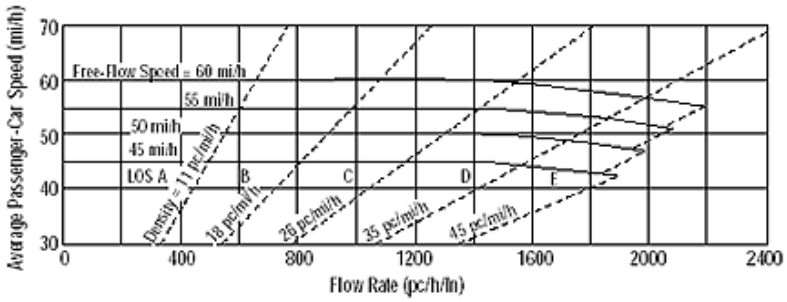
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	410	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	229
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.2
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*215.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.97*
Bicycle level of service (Exhibit 15-4)	*F*

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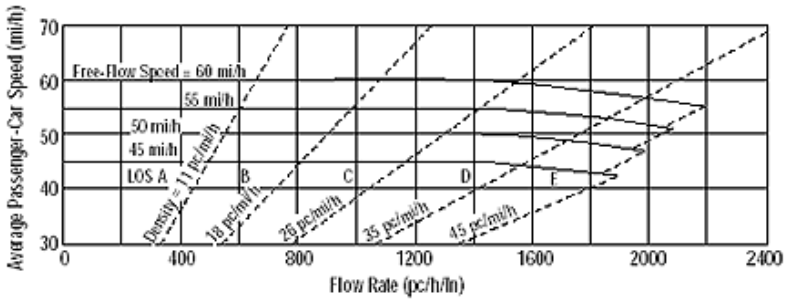
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	360	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	201
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.7
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*189.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.91*
Bicycle level of service (Exhibit 15-4)	*F*

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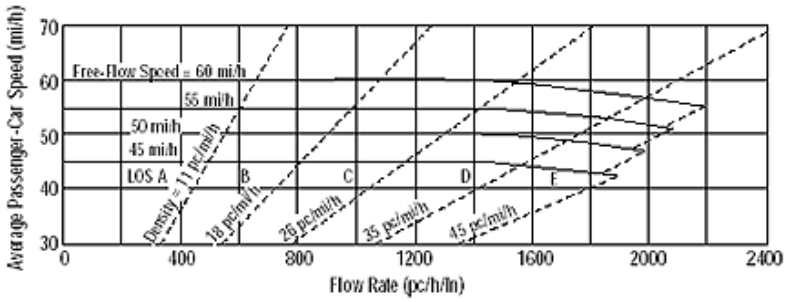
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	550	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	308
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*289.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.12*
Bicycle level of service (Exhibit 15-4)	*F*

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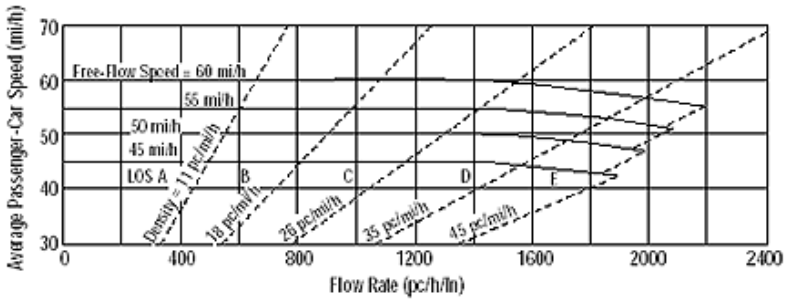
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	440	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	246
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.5
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*231.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.01*
Bicycle level of service (Exhibit 15-4)	*F*

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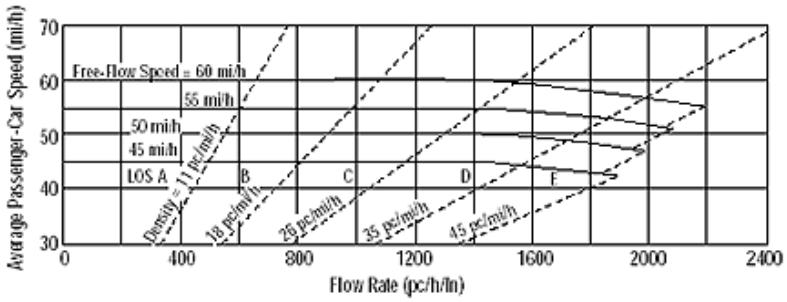
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	500	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	280
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*263.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.07*
Bicycle level of service (Exhibit 15-4)	*F*

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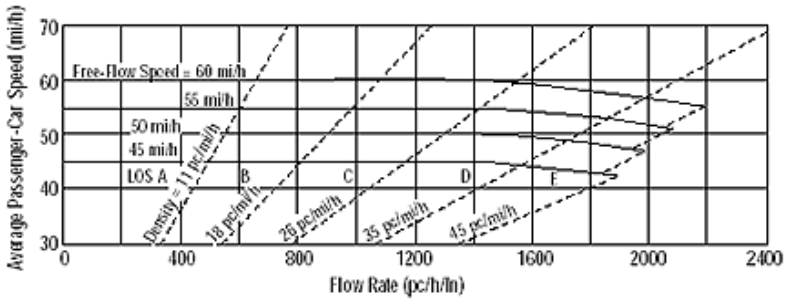
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	400	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	224
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*210.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.96*
Bicycle level of service (Exhibit 15-4)	*F*

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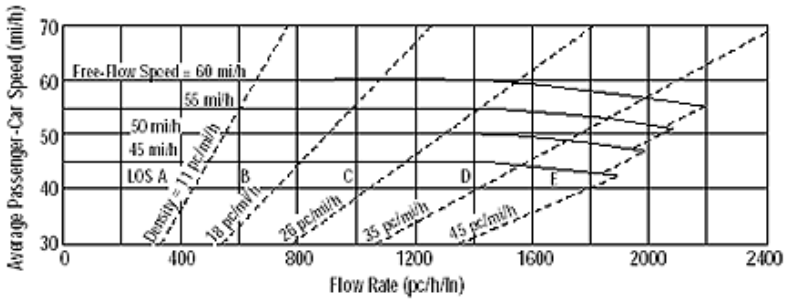
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1000	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	373
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*350.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.22*
Bicycle level of service (Exhibit 15-4)	*F*

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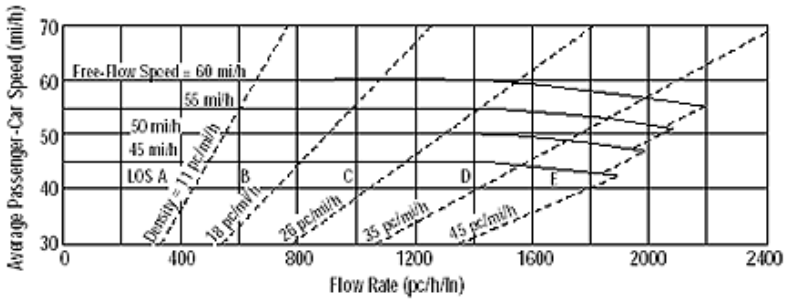
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1000	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	373
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*350.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.22*
Bicycle level of service (Exhibit 15-4)	*F*

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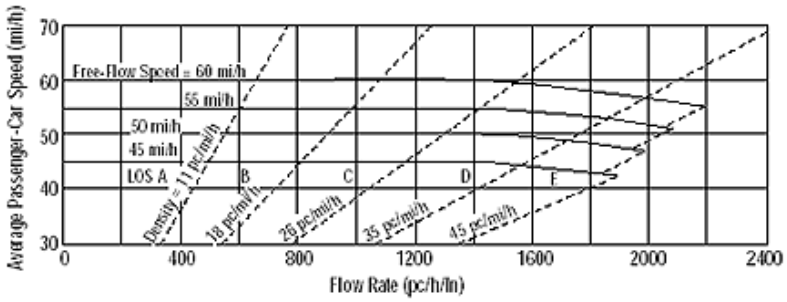
MULTILANE HIGHWAYS WORKSHEET(Direct 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	920	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	343
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.2
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*322.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.18*
Bicycle level of service (Exhibit 15-4)	*F*

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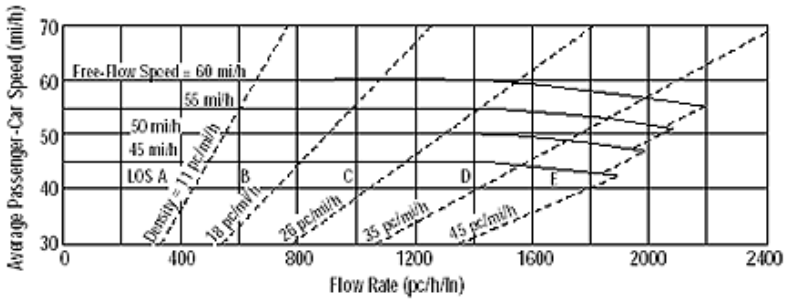
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	920	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	343
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.2
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*322.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.18*
Bicycle level of service (Exhibit 15-4)	*F*

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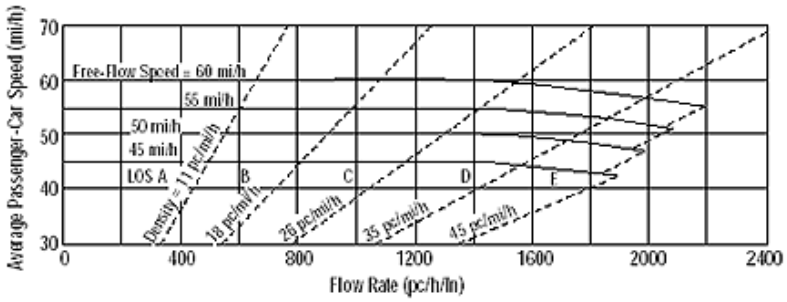
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2490	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	930
Speed, S (mi/h)	55.0
D (pc/mi/ln)	16.9
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*873.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.68*
Bicycle level of service (Exhibit 15-4)	*F*

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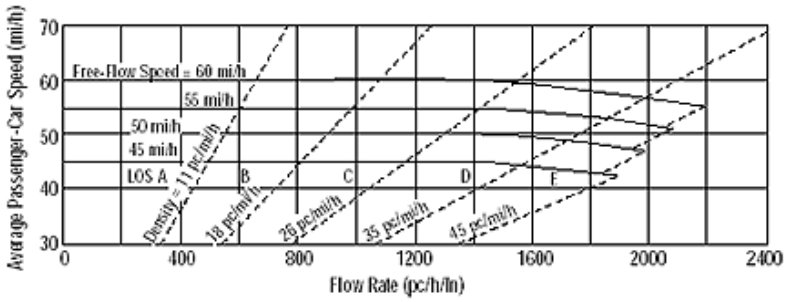
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2490	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	930
Speed, S (mi/h)	55.0
D (pc/mi/ln)	16.9
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*873.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.68*
Bicycle level of service (Exhibit 15-4)	*F*

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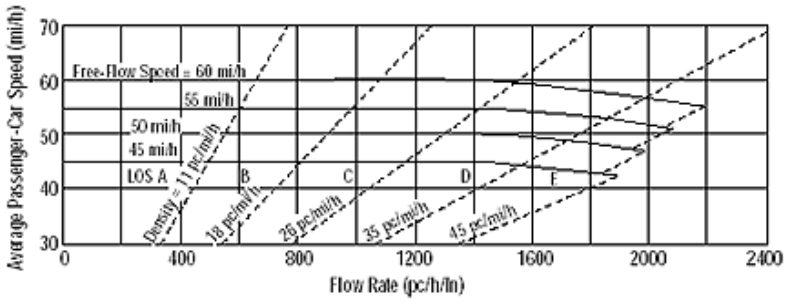
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2400	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	896
Speed, S (mi/h)	55.0
D (pc/mi/ln)	16.3
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*842.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.66*
Bicycle level of service (Exhibit 15-4)	*F*

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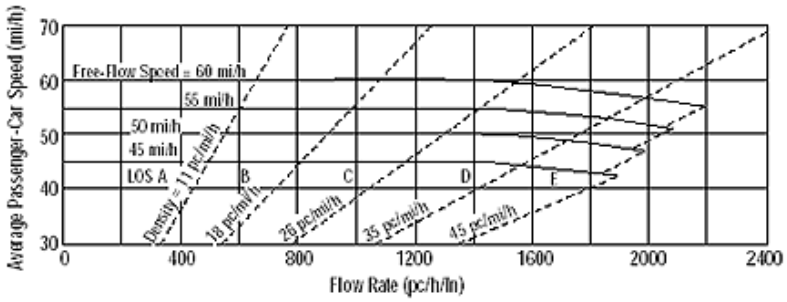
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2400	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	896
Speed, S (mi/h)	55.0
D (pc/mi/ln)	16.3
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*842.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.66*
Bicycle level of service (Exhibit 15-4)	*F*

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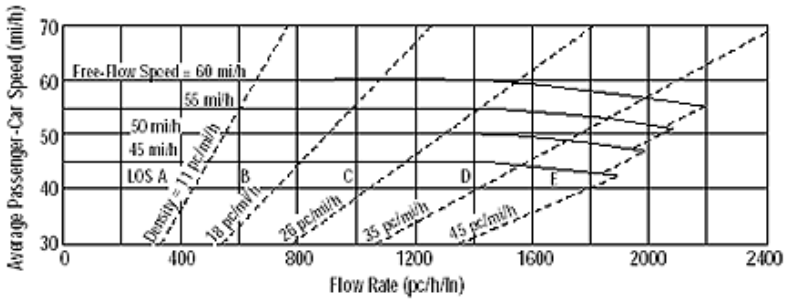
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1050	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	580
Speed, S (mi/h)	55.0
D (pc/mi/ln)	10.5
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*552.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.14*
Bicycle level of service (Exhibit 15-4)	*E*

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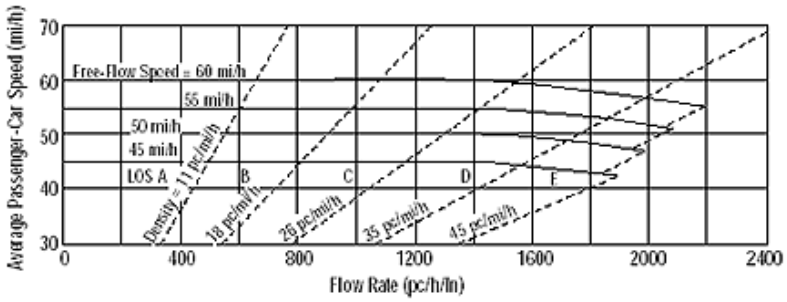
MULTILANE HIGHWAYS WORKSHEET(Direct 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	790	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	436
Speed, S (mi/h)	55.0
D (pc/mi/ln)	7.9
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*415.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.00*
Bicycle level of service (Exhibit 15-4)	*E*

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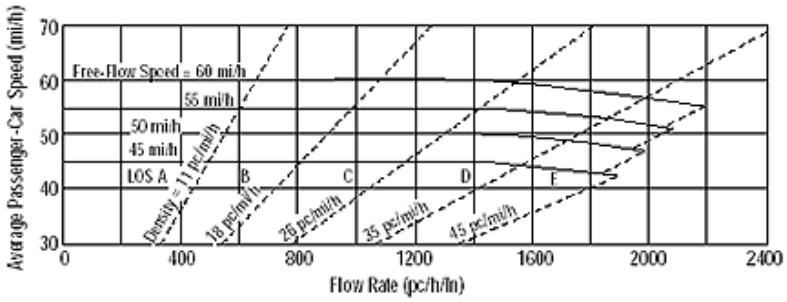
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	980	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	541
Speed, S (mi/h)	55.0
D (pc/mi/ln)	9.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*515.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.11*
Bicycle level of service (Exhibit 15-4)	*E*

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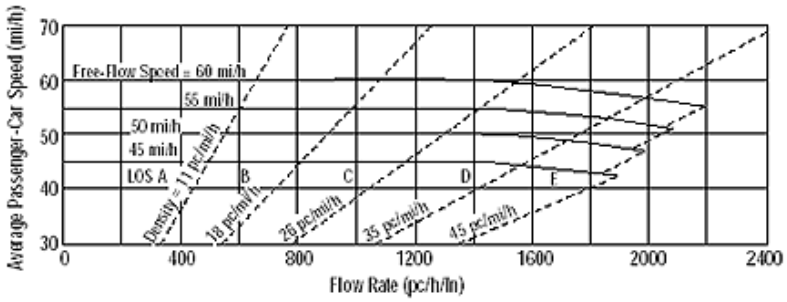
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	630	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	348
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*331.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.88*
Bicycle level of service (Exhibit 15-4)	*E*

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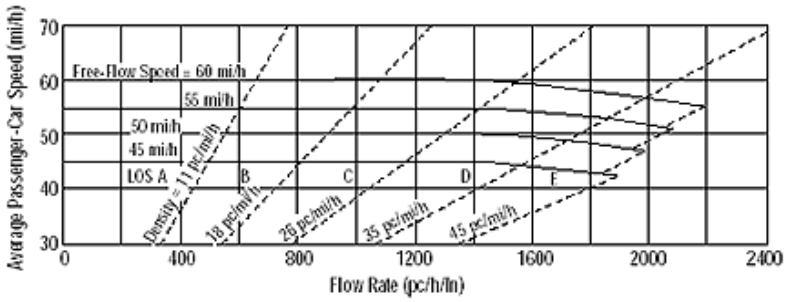
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	830	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	458
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*436.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.02*
Bicycle level of service (Exhibit 15-4)	*E*

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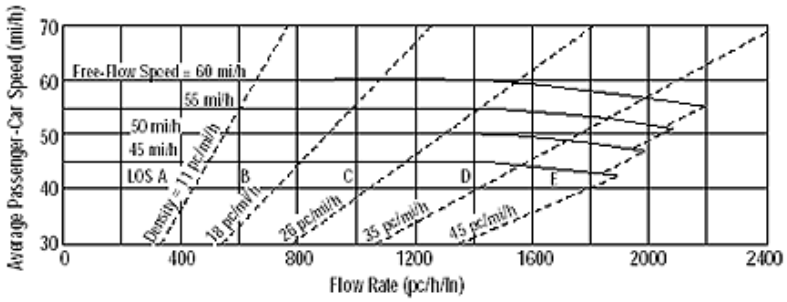
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	620	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	342
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.2
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*326.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.87*
Bicycle level of service (Exhibit 15-4)	*E*

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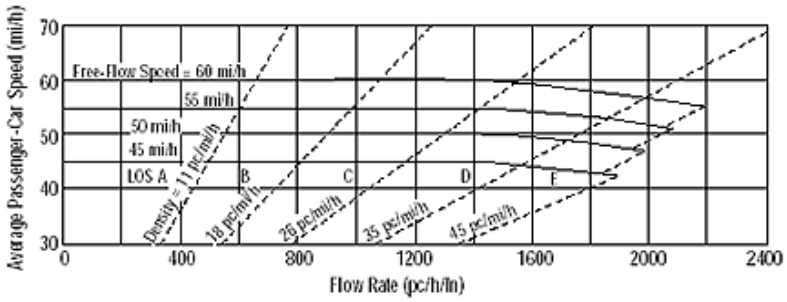
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	880	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	486
Speed, S (mi/h)	55.0
D (pc/mi/ln)	8.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*463.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.05*
Bicycle level of service (Exhibit 15-4)	*E*

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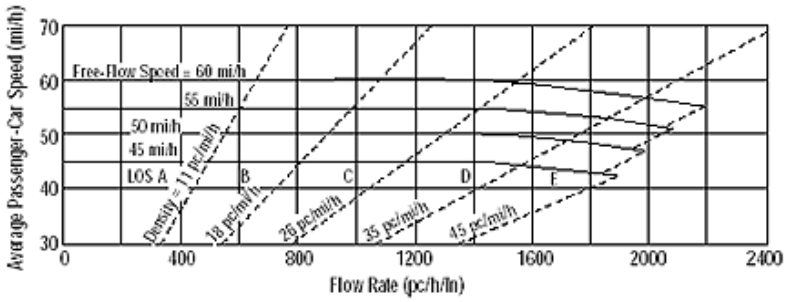
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Albers Road/Stearns Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	540	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	298
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.4
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*284.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.80*
Bicycle level of service (Exhibit 15-4)	*E*

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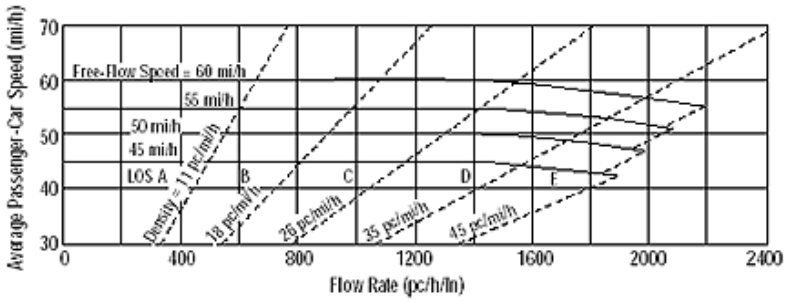
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2010	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	740
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.5
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*705.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.27*
Bicycle level of service (Exhibit 15-4)	*E*

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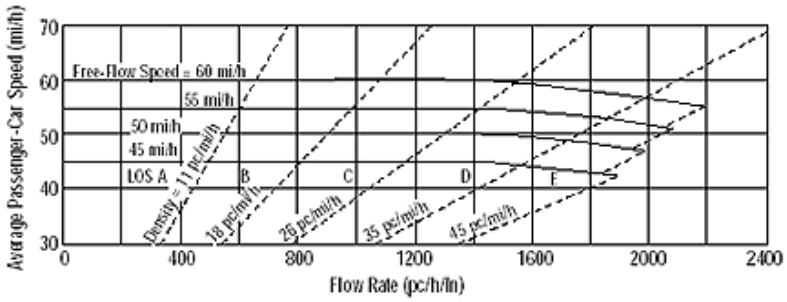
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2010	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	740
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.5
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*705.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.27*
Bicycle level of service (Exhibit 15-4)	*E*

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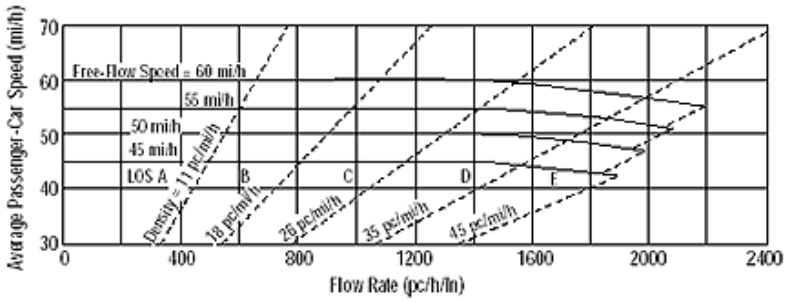
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1920	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	707
Speed, S (mi/h)	55.0
D (pc/mi/ln)	12.9
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*673.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.24*
Bicycle level of service (Exhibit 15-4)	*E*

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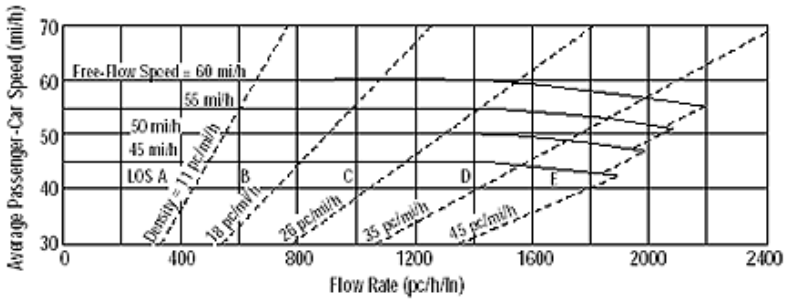
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1920	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	707
Speed, S (mi/h)	55.0
D (pc/mi/ln)	12.9
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*673.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.24*
Bicycle level of service (Exhibit 15-4)	*E*

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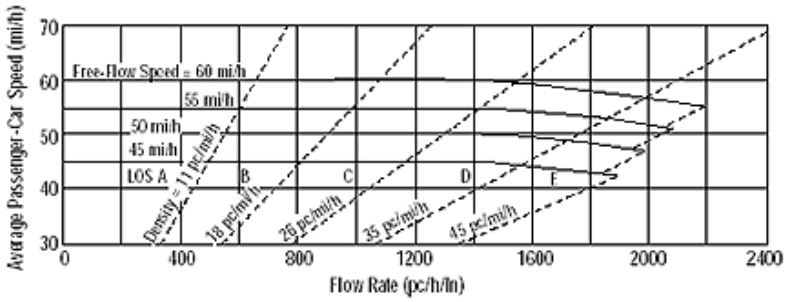
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2060	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	758
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.8
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*722.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.28*
Bicycle level of service (Exhibit 15-4)	*E*

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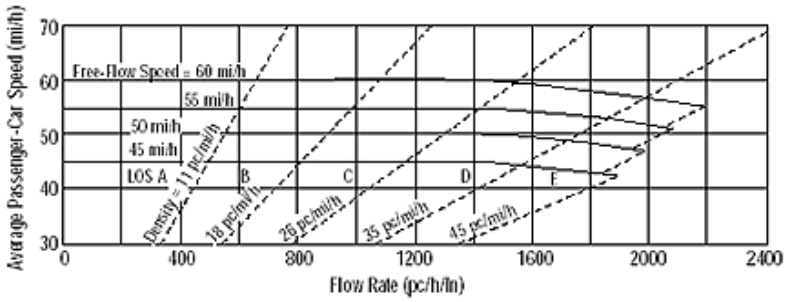
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2060	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	758
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.8
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*722.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.28*
Bicycle level of service (Exhibit 15-4)	*E*

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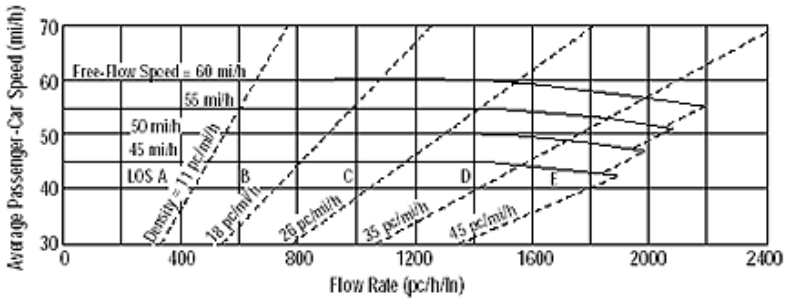
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1970	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	725
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.2
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*691.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.26*
Bicycle level of service (Exhibit 15-4)	*E*

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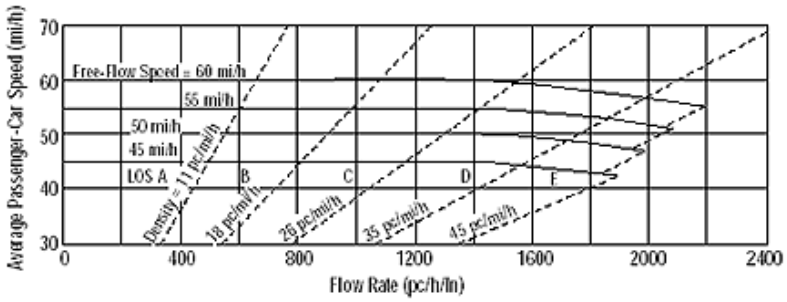
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Carver Road/Tully Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1970	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	725
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.2
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*691.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.26*
Bicycle level of service (Exhibit 15-4)	*E*

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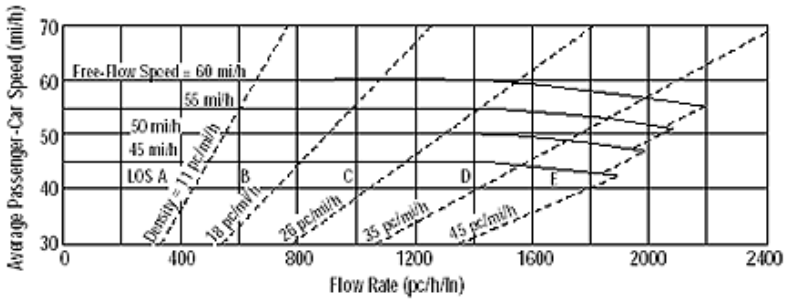
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1850	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1022
Speed, S (mi/h)	55.0
D (pc/mi/ln)	18.6
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*973.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.43*
Bicycle level of service (Exhibit 15-4)	*E*

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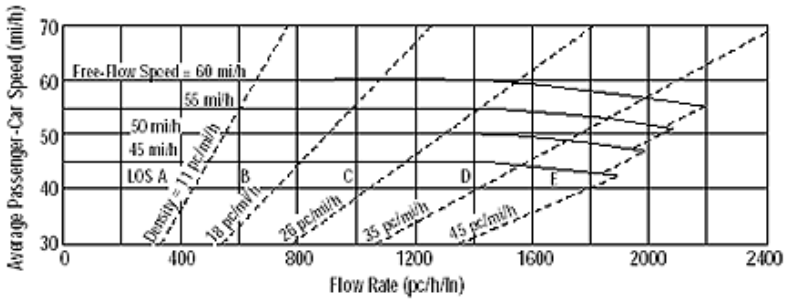
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1770	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	978
Speed, S (mi/h)	55.0
D (pc/mi/ln)	17.8
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*931.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.41*
Bicycle level of service (Exhibit 15-4)	*E*

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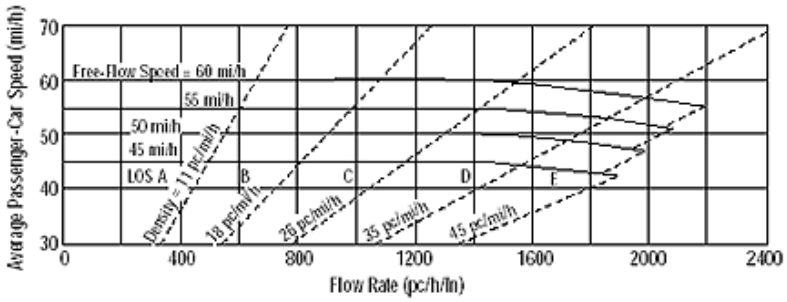
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1460	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	806
Speed, S (mi/h)	55.0
D (pc/mi/ln)	14.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*768.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.31*
Bicycle level of service (Exhibit 15-4)	*E*

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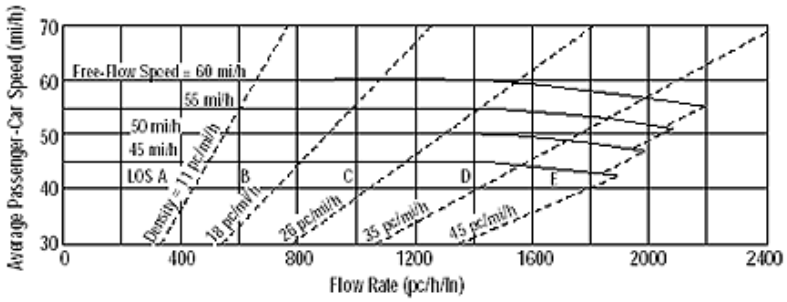
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1330	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	735
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.4
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*700.0*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.26*
Bicycle level of service (Exhibit 15-4)	*E*

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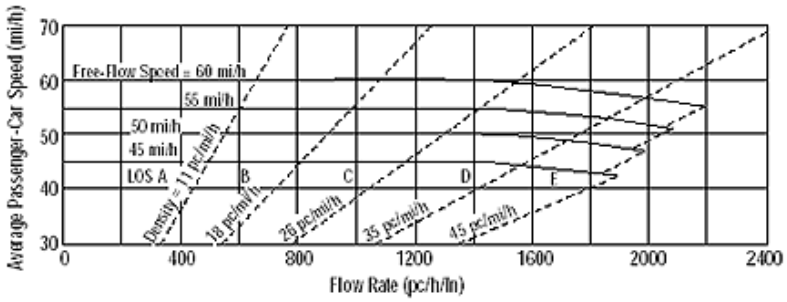
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2170	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1199
Speed, S (mi/h)	55.0
D (pc/mi/ln)	21.8
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1142.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.51*
Bicycle level of service (Exhibit 15-4)	*F*

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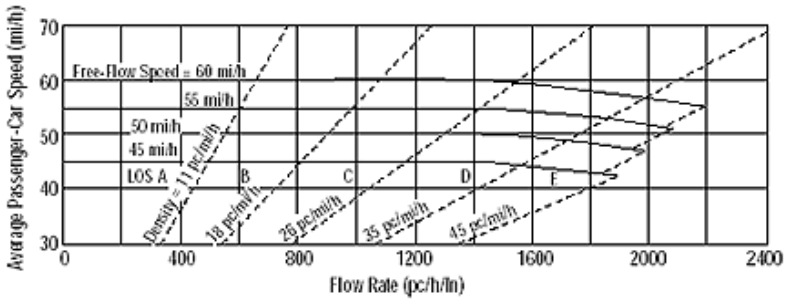
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2110	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1166
Speed, S (mi/h)	55.0
D (pc/mi/ln)	21.2
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1110.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.50*
Bicycle level of service (Exhibit 15-4)	*E*

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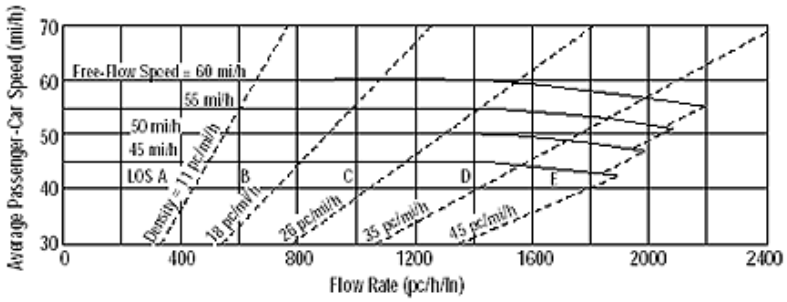
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1540	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	851
Speed, S (mi/h)	55.0
D (pc/mi/ln)	15.5
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*810.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.34*
Bicycle level of service (Exhibit 15-4)	*E*

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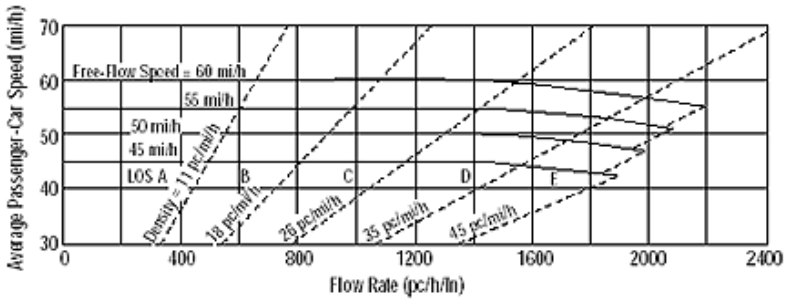
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Claus Road/Crane Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1460	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	806
Speed, S (mi/h)	55.0
D (pc/mi/ln)	14.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*768.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.31*
Bicycle level of service (Exhibit 15-4)	*E*

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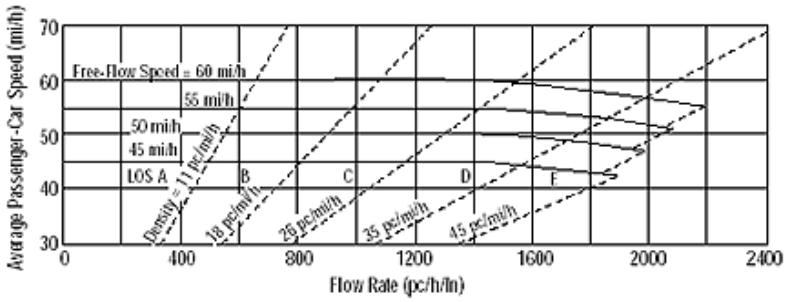
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1300	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	718
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*684.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.25*
Bicycle level of service (Exhibit 15-4)	*E*

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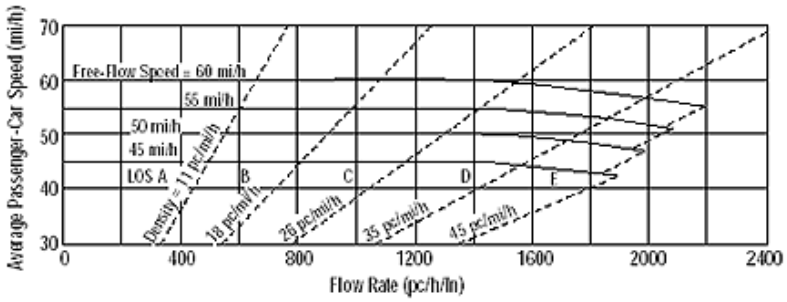
MULTILANE HIGHWAYS WORKSHEET(Direct 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1200	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	663
Speed, S (mi/h)	55.0
D (pc/mi/ln)	12.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*631.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.21*
Bicycle level of service (Exhibit 15-4)	*E*

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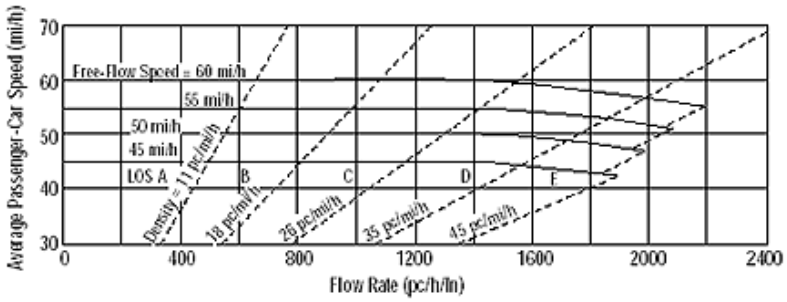
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1300	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	718
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*684.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.25*
Bicycle level of service (Exhibit 15-4)	*E*

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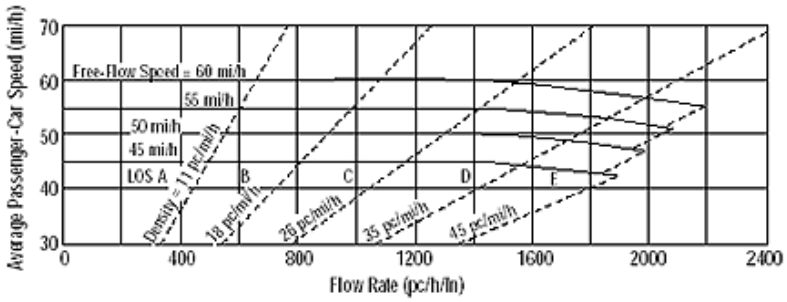
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1140	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	630
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.5
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*600.0*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.18*
Bicycle level of service (Exhibit 15-4)	*E*

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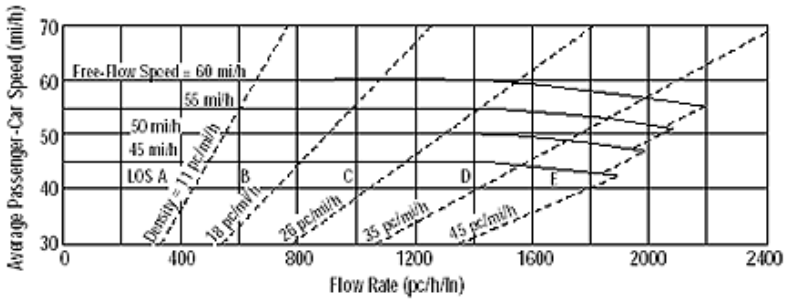
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1640	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	906
Speed, S (mi/h)	55.0
D (pc/mi/ln)	16.5
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*863.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.37*
Bicycle level of service (Exhibit 15-4)	*E*

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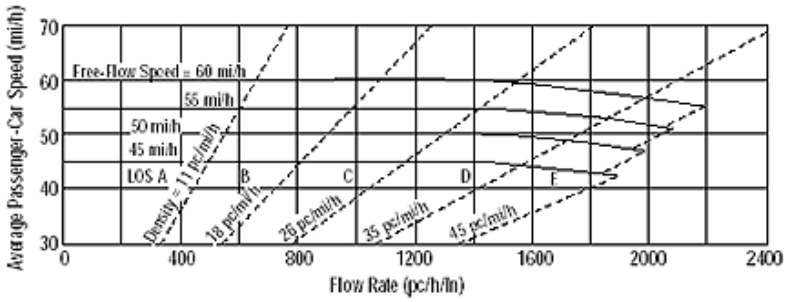
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1580	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	873
Speed, S (mi/h)	55.0
D (pc/mi/ln)	15.9
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*831.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.35*
Bicycle level of service (Exhibit 15-4)	*E*

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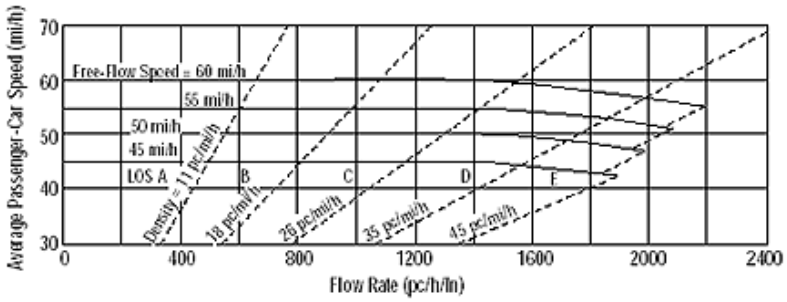
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1210	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	668
Speed, S (mi/h)	55.0
D (pc/mi/ln)	12.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*636.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.21*
Bicycle level of service (Exhibit 15-4)	*E*

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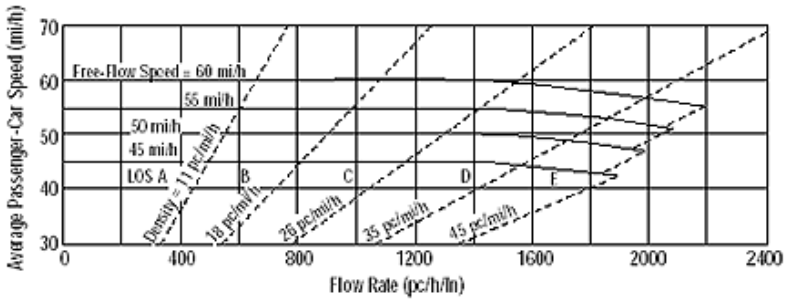
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Crane Road/Albers Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1130	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	624
Speed, S (mi/h)	55.0
D (pc/mi/ln)	11.3
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*594.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.18*
Bicycle level of service (Exhibit 15-4)	*E*

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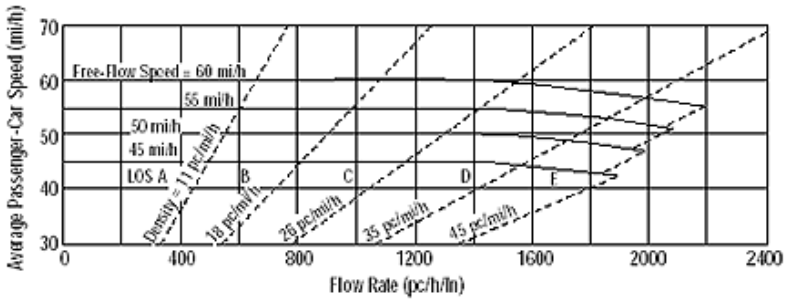
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	640	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	353
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.4
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*336.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.89*
Bicycle level of service (Exhibit 15-4)	*E*

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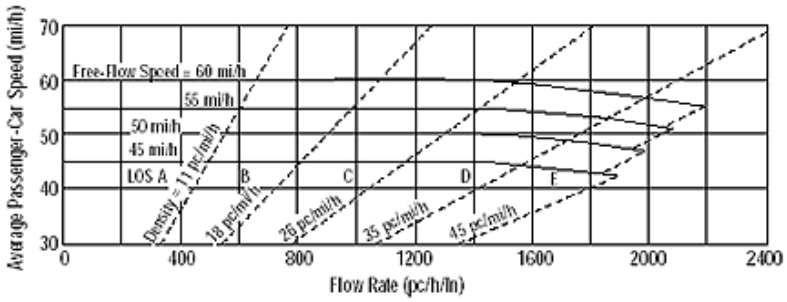
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	530	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	292
Speed, S (mi/h)	55.0
D (pc/mi/ln)	5.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*278.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.80*
Bicycle level of service (Exhibit 15-4)	*E*

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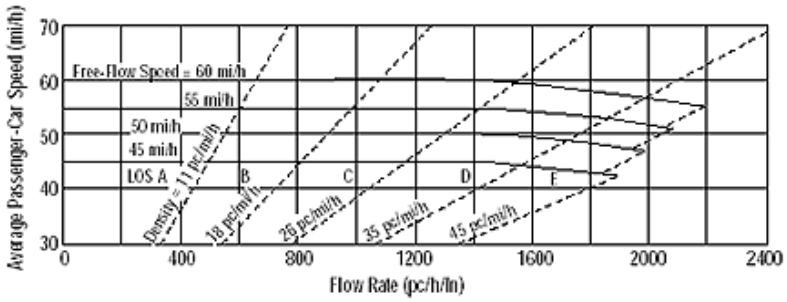
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	610	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	337
Speed, S (mi/h)	55.0
D (pc/mi/ln)	6.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*321.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.87*
Bicycle level of service (Exhibit 15-4)	*E*

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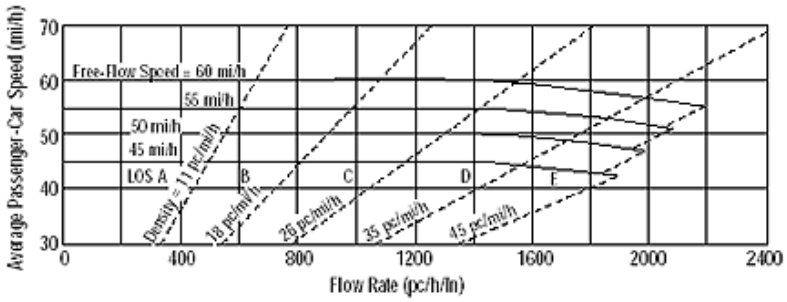
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/EDSS

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	470	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	259
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.7
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*247.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.73*
Bicycle level of service (Exhibit 15-4)	*E*

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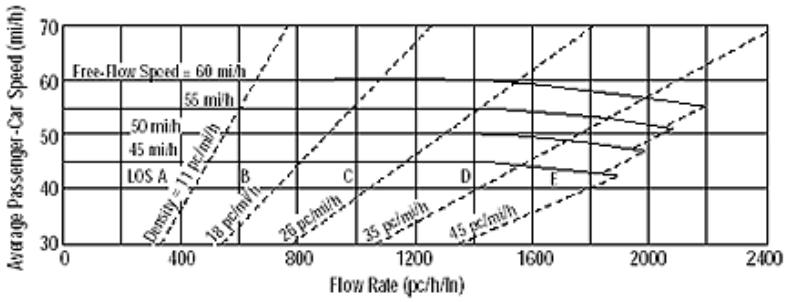
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	460	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	254
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*242.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.72*
Bicycle level of service (Exhibit 15-4)	*E*

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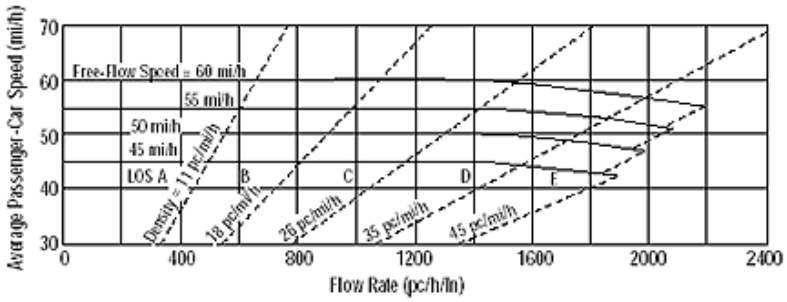
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	400	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	221
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*210.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.65*
Bicycle level of service (Exhibit 15-4)	*E*

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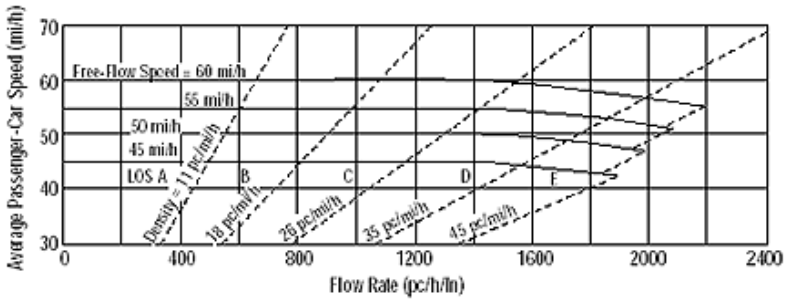
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	430	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	237
Speed, S (mi/h)	55.0
D (pc/mi/ln)	4.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*226.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.69*
Bicycle level of service (Exhibit 15-4)	*E*

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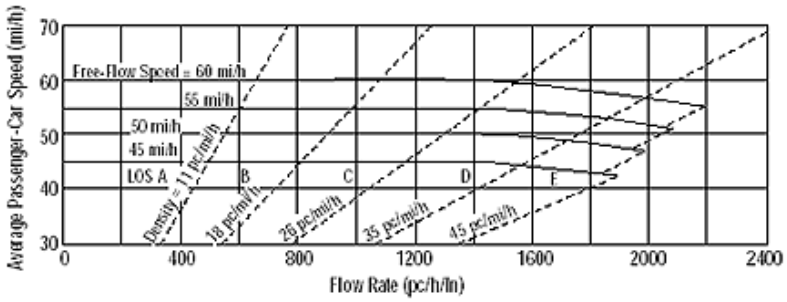
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Stearns/SR 120
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/EDSS

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	370	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	204
Speed, S (mi/h)	55.0
D (pc/mi/ln)	3.7
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*194.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.61*
Bicycle level of service (Exhibit 15-4)	*E*

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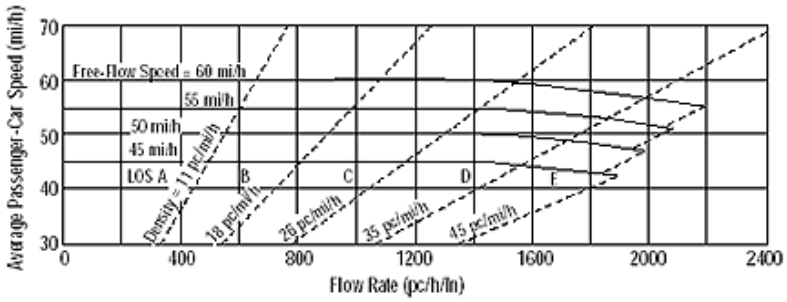
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2570	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	946
Speed, S (mi/h)	55.0
D (pc/mi/ln)	17.2
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*901.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.39*
Bicycle level of service (Exhibit 15-4)	*E*

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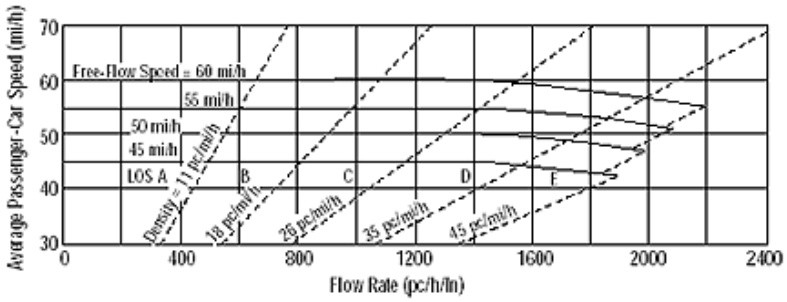
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2570	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	946
Speed, S (mi/h)	55.0
D (pc/mi/ln)	17.2
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*901.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.39*
Bicycle level of service (Exhibit 15-4)	*E*

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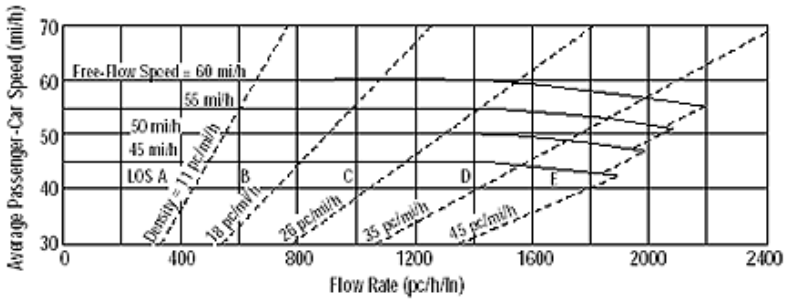
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2590	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	954
Speed, S (mi/h)	55.0
D (pc/mi/ln)	17.3
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*908.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.39*
Bicycle level of service (Exhibit 15-4)	*E*

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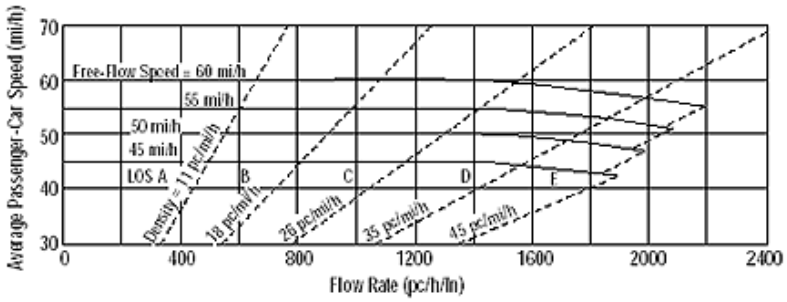
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2590	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	954
Speed, S (mi/h)	55.0
D (pc/mi/ln)	17.3
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*908.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.39*
Bicycle level of service (Exhibit 15-4)	*E*

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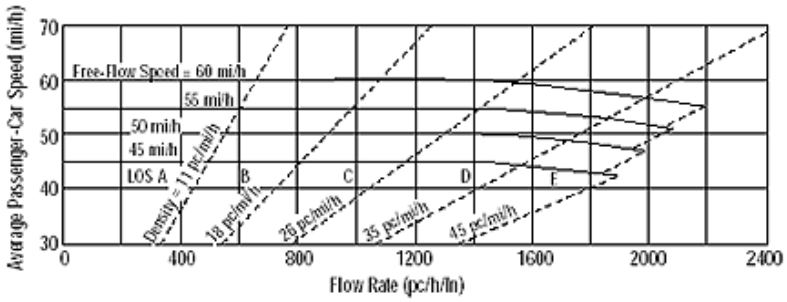
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2110	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	777
Speed, S (mi/h)	55.0
D (pc/mi/ln)	14.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*740.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.29*
Bicycle level of service (Exhibit 15-4)	*E*

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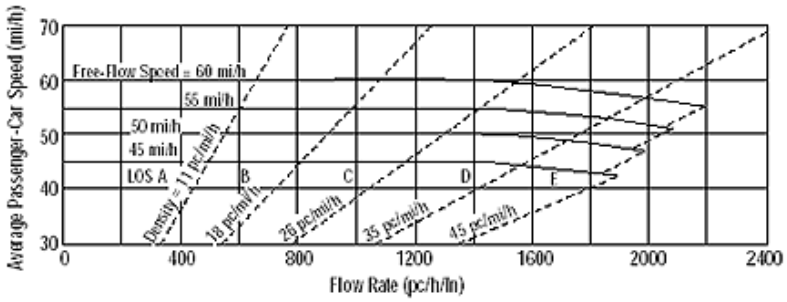
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2110	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	777
Speed, S (mi/h)	55.0
D (pc/mi/ln)	14.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*740.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.29*
Bicycle level of service (Exhibit 15-4)	*E*

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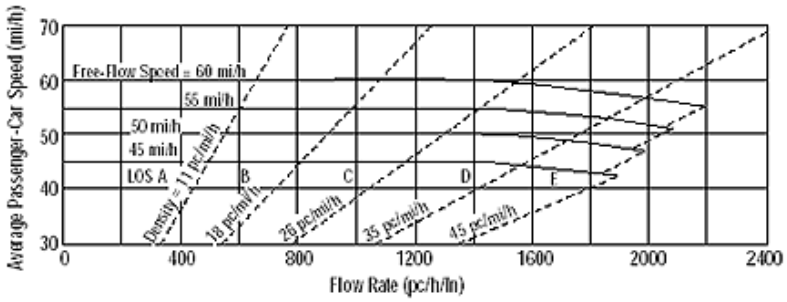
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1940	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	714
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.0
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*680.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.25*
Bicycle level of service (Exhibit 15-4)	*E*

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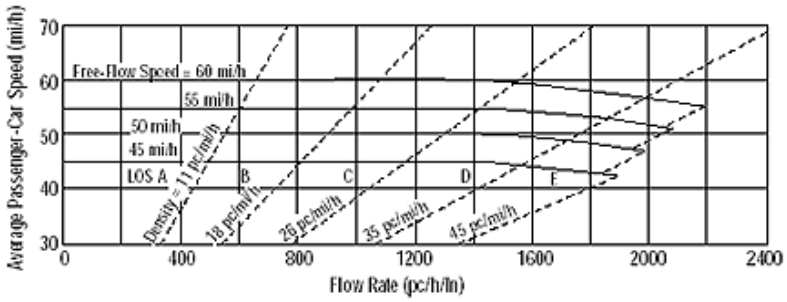
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	12/30/2013
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Tully Road/McHenry Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description North County Corridor PA/ED

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1940	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	714
Speed, S (mi/h)	55.0
D (pc/mi/ln)	13.0
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*680.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.25*
Bicycle level of service (Exhibit 15-4)	*E*

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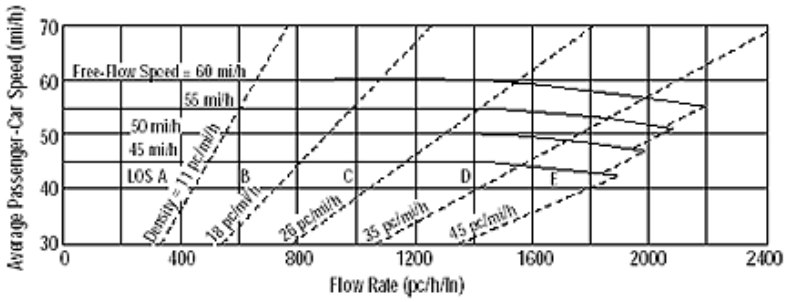
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	3/20/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1540	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	863
Speed, S (mi/h)	55.0
D (pc/mi/ln)	15.7
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*810.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.65*
Bicycle level of service (Exhibit 15-4)	*F*

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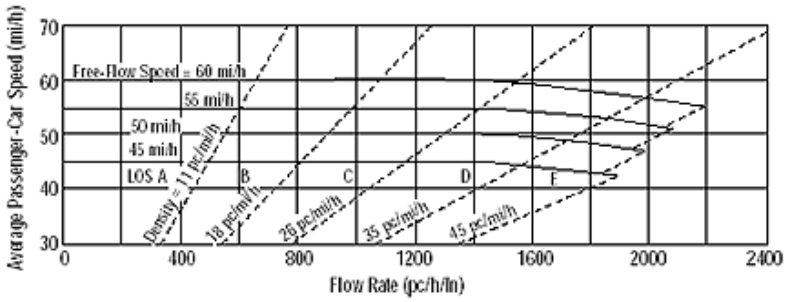
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	3/20/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1720	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	964
Speed, S (mi/h)	55.0
D (pc/mi/ln)	17.5
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*905.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.70*
Bicycle level of service (Exhibit 15-4)	*F*

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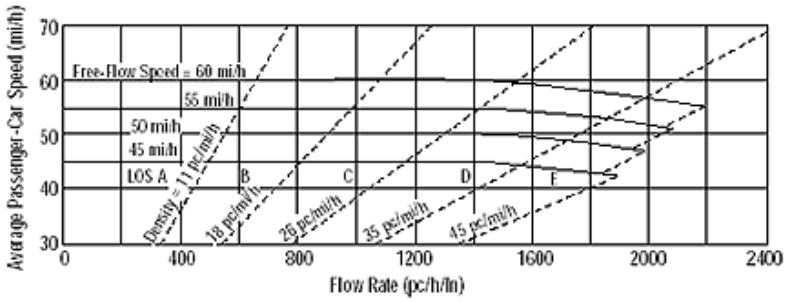
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	3/20/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1750	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	980
Speed, S (mi/h)	55.0
D (pc/mi/ln)	17.8
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*921.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.71*
Bicycle level of service (Exhibit 15-4)	*F*

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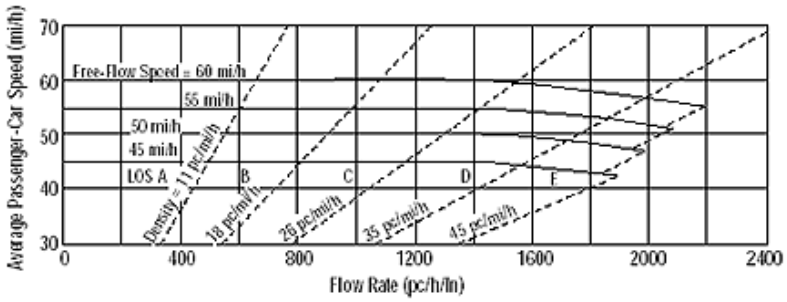
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	3/20/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1980	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1109
Speed, S (mi/h)	55.0
D (pc/mi/ln)	20.2
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1042.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.77*
Bicycle level of service (Exhibit 15-4)	*F*

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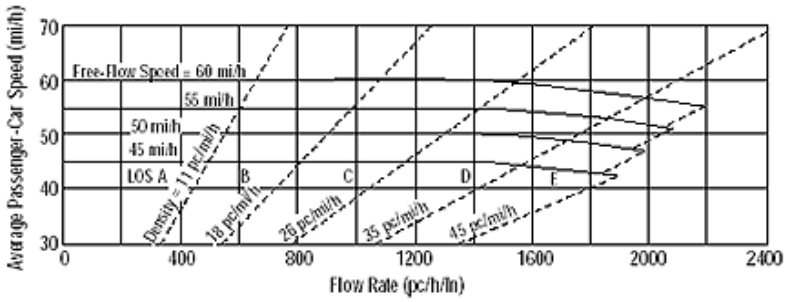
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	
Date Performed	3/20/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2000	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1121
Speed, S (mi/h)	55.0
D (pc/mi/ln)	20.4
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1052.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.78*
Bicycle level of service (Exhibit 15-4)	*F*

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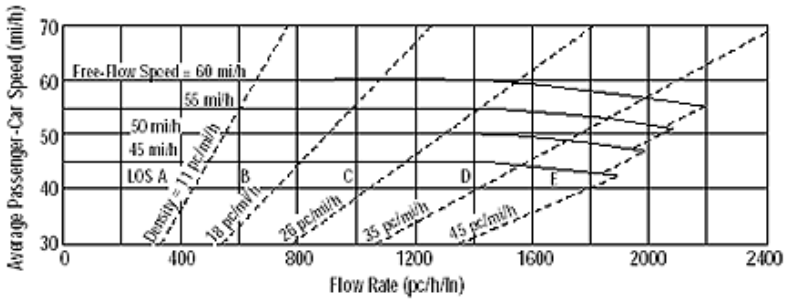
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	3/20/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1620	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	908
Speed, S (mi/h)	55.0
D (pc/mi/ln)	16.5
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*852.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.67*
Bicycle level of service (Exhibit 15-4)	*F*

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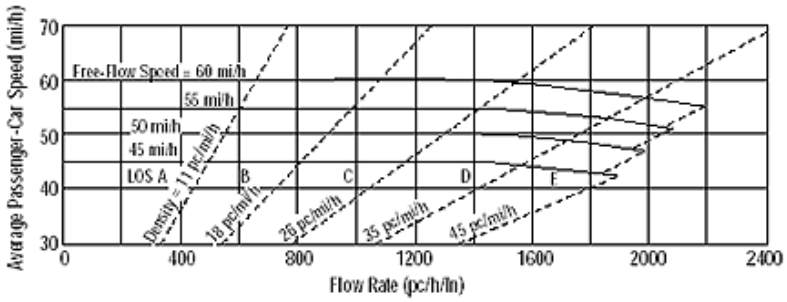
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	3/20/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1910	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1070
Speed, S (mi/h)	55.0
D (pc/mi/ln)	19.5
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1005.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.75*
Bicycle level of service (Exhibit 15-4)	*F*

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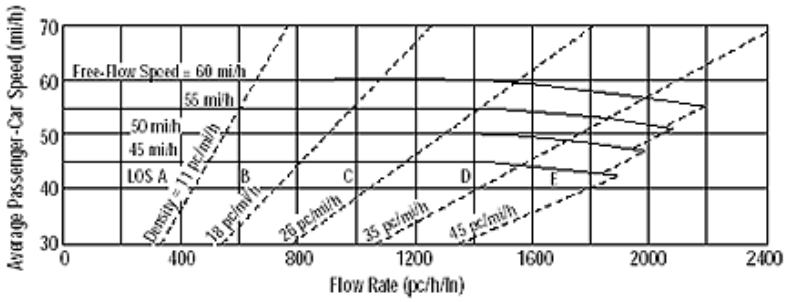
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	
Date Performed	3/20/2014
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1950	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	13
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.939

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1093
Speed, S (mi/h)	55.0
D (pc/mi/ln)	19.9
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1026.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*6.76*
Bicycle level of service (Exhibit 15-4)	*F*

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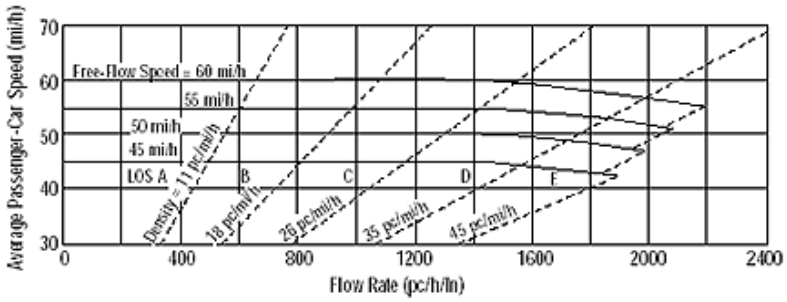
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	3/20/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1780	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	983
Speed, S (mi/h)	55.0
D (pc/mi/ln)	17.9
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*936.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.41*
Bicycle level of service (Exhibit 15-4)	*E*

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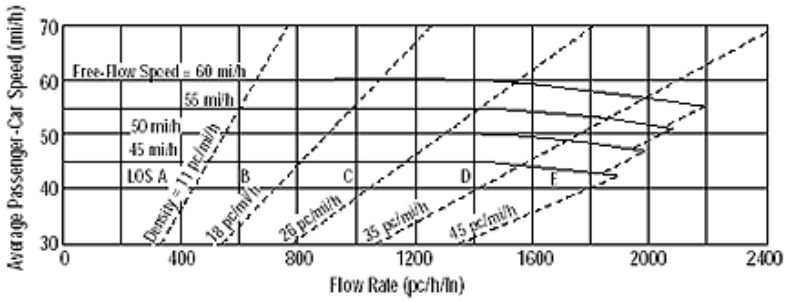
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	3/20/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1840	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1016
Speed, S (mi/h)	55.0
D (pc/mi/ln)	18.5
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*968.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.43*
Bicycle level of service (Exhibit 15-4)	*E*

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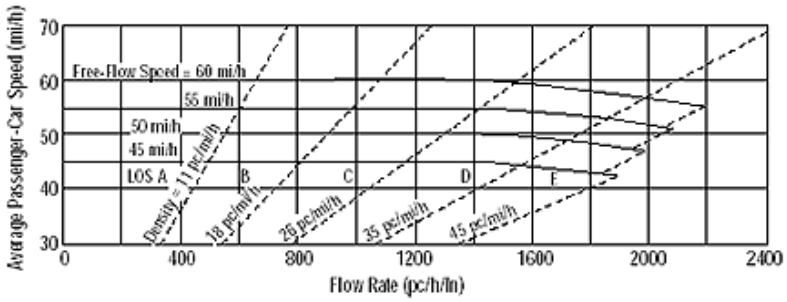
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	3/20/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2090	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1155
Speed, S (mi/h)	55.0
D (pc/mi/ln)	21.0
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1100.0*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.49*
Bicycle level of service (Exhibit 15-4)	*E*

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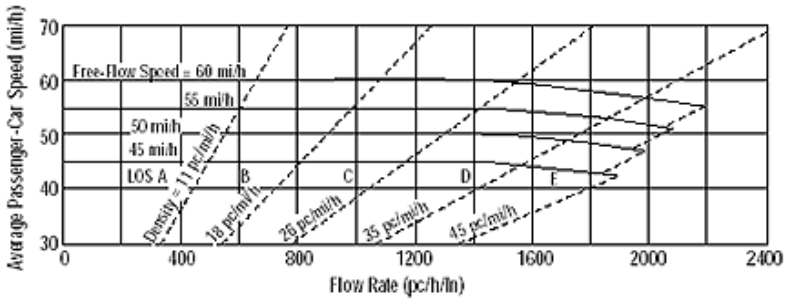
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	
Date Performed	3/20/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2130	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1177
Speed, S (mi/h)	55.0
D (pc/mi/ln)	21.4
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1121.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.50*
Bicycle level of service (Exhibit 15-4)	*F*

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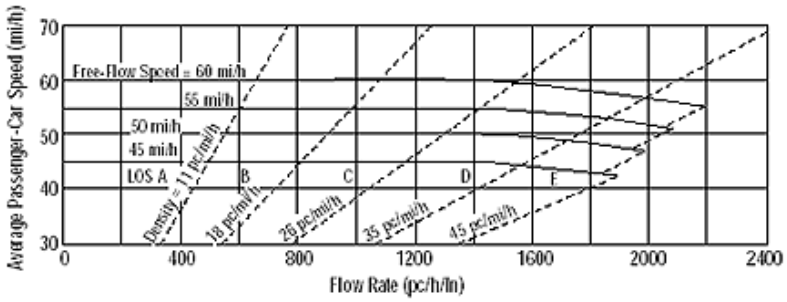
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	3/20/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1800	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	994
Speed, S (mi/h)	55.0
D (pc/mi/ln)	18.1
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*947.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.42*
Bicycle level of service (Exhibit 15-4)	*E*

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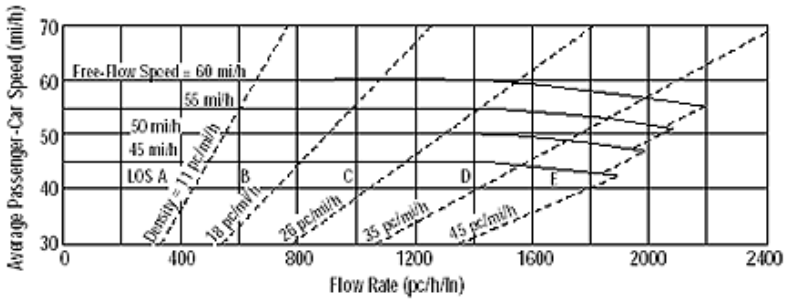
MULTILANE HIGHWAYS WORKSHEET(Direct 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	3/20/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 2A

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1840	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1016
Speed, S (mi/h)	55.0
D (pc/mi/ln)	18.5
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*968.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.43*
Bicycle level of service (Exhibit 15-4)	*E*

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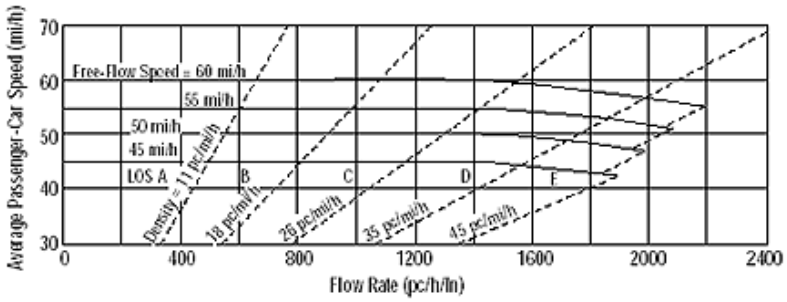
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	Fehr & Peers
Date Performed	3/20/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	2042 Alternative 1B

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2230	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1232
Speed, S (mi/h)	55.0
D (pc/mi/ln)	22.4
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1173.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.52*
Bicycle level of service (Exhibit 15-4)	*F*

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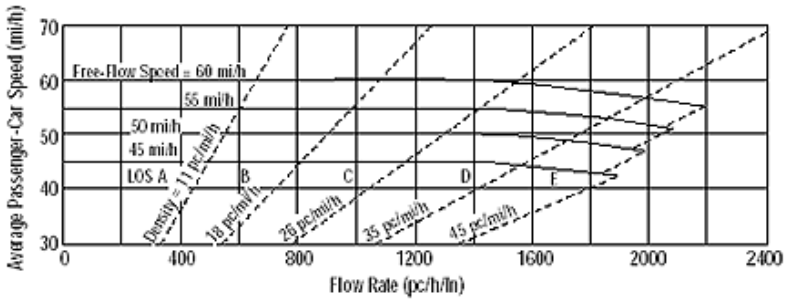
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	KC
Agency or Company	
Date Performed	3/20/2014
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction to Travel	North County Corridor
From/To	Roselle Ave/Claus Road
Jurisdiction	Caltrans
Analysis Year	

Project Description

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2250	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	10
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.952

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	0
Median Type, M	
FFS (measured)	55.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	55.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1243
Speed, S (mi/h)	55.0
D (pc/mi/ln)	22.6
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1184.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*5.53*
Bicycle level of service (Exhibit 15-4)	*F*

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company		From/To	*Coffee Road/Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 1A*
Project Description			

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1240*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*463*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*7.1*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company	*Fehr & Peers*	From/To	*Coffee Road/Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 1B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1230*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*460*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*7.1*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company	*Fehr & Peers*	From/To	*Coffee Road/Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1230*	veh/h	Peak-Hour Factor, PHF	*0.95*	
AADT		veh/day	%Trucks and Buses, P_T	*13*	
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*	
Peak-Hr Direction Prop, D			General Terrain:	*Level*	
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs			Calc Speed Adj and FFS		
Lane Width		ft			
Rt-Side Lat. Clearance		ft	f_{LW}		mph
Number of Lanes, N	*3*		f_{LC}		mph
Total Ramp Density, TRD		ramps/mi	TRD Adjustment		mph
FFS (measured)	*65.0*	mph	FFS	*65.0*	mph
Base free-flow Speed, BFFS		mph			

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*460*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	*65.0*	mph	S	mph
D = v_p / S	*7.1*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*A*		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company	*Fehr & Peers*	From/To	*Coffee Road/Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 2B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1020*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*381*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*5.9*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 860	V_D = veh/h
	Ramp Volume, V_R: 380	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	860	0.95	Level	13	0	0.939	1.00	964
Ramp	380	0.95	Level	13	0	0.939	1.00	426
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 573 pc/h

V_3 or V_{av34} 391 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1390	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	999	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 9.3 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.278 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 850	V_D = veh/h
	Ramp Volume, V_R: 380	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	850	0.95	Level	13	0	0.939	1.00	953
Ramp	380	0.95	Level	13	0	0.939	1.00	426
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 566 pc/h

V_3 or V_{av34} 387 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1379	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	992	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 9.3 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.278 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 740	V_D = veh/h
	Ramp Volume, V_R: 290	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	740	0.95	Level	13	0	0.939	1.00	830
Ramp	290	0.95	Level	13	0	0.939	1.00	325
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 493 pc/h

V_3 or V_{av34} 337 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1155	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	818	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 7.9 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.276 (Exibit 13-11)

S_R= 58.7 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 730	V_D = veh/h
	Ramp Volume, V_R: 290	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	730	0.95	Level	13	0	0.939	1.00	818
Ramp	290	0.95	Level	13	0	0.939	1.00	325
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 486 pc/h

V_3 or V_{av34} 332 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1143	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	811	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 7.9 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.276 (Exibit 13-11)

S_R= 58.7 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 1A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1680*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*942*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*14.5*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Avenue*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 1B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1660*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*930*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*14.3*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Avenue*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1660*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*930*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*14.3*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Avenue*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 2B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1400*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*785*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*12.1*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company		Junction	Oakdale Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	1500	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1240	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	130	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1240	0.95	Level	13	0	0.939	1.00	1390
Ramp	130	0.95	Level	13	0	0.939	1.00	146
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1390 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1390	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1244	Exhibit 13-8	4700	No
V_R	146	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1390	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 2.7 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.311 (Exhibit 13-12)

S_R= 57.8 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 850	V_D = veh/h
	Ramp Volume, V_R: 380	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	850	0.95	Level	13	0	0.939	1.00	953
Ramp	380	0.95	Level	13	0	0.939	1.00	426
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 566 pc/h

V_3 or V_{av34} 387 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1379	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	992	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 9.3 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.278 (Exibit 13-11)

S_R= 58.6 mph (Exhibit 13-11)

S_0= 65.0 mph (Exhibit 13-11)

S = 60.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	1500	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1030	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	150	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1030	0.95	Level	13	0	0.939	1.00	1155
Ramp	150	0.95	Level	13	0	0.939	1.00	168
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1155 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1155	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	987	Exhibit 13-8	4700	No
V_R	168	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1155	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 0.7 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.313 (Exhibit 13-12)

S_R= 57.8 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	1500	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1020	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	150	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1020	0.95	Level	13	0	0.939	1.00	1143
Ramp	150	0.95	Level	13	0	0.939	1.00	168
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1143 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1143	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	975	Exhibit 13-8	4700	No
V_R	168	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1143	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 0.6 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.313 (Exhibit 13-12)

S_R= 57.8 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 1500	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1110	V_D = veh/h
	Ramp Volume, V_R: 570	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1110	0.95	Level	13	0	0.939	1.00	1244
Ramp	570	0.95	Level	13	0	0.939	1.00	639
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1244 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1883	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1883	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 10.5 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.212 (Exibit 13-11)

S_R= 60.1 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 60.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 1500	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1110	V_D = veh/h
	Ramp Volume, V_R: 560	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1110	0.95	Level	13	0	0.939	1.00	1244
Ramp	560	0.95	Level	13	0	0.939	1.00	628
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1244 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1872	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1872	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 10.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.211 (Exibit 13-11)

S_R= 60.1 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 60.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 1500	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 880	V_D = veh/h
	Ramp Volume, V_R: 550	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	880	0.95	Level	13	0	0.939	1.00	987
Ramp	550	0.95	Level	13	0	0.939	1.00	617
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 987 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1604	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1604	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 8.3 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.205 (Exibit 13-11)

S_R= 60.3 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 60.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 1500	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 870	V_D = veh/h
	Ramp Volume, V_R: 530	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	870	0.95	Level	13	0	0.939	1.00	975
Ramp	530	0.95	Level	13	0	0.939	1.00	594
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 975 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1569	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1569	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 8.0 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.205 (Exibit 13-11)

S_R= 60.3 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 60.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company		Junction	Roselle Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1680	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	160	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1680	0.95	Level	13	0	0.939	1.00	1883
Ramp	160	0.95	Level	13	0	0.939	1.00	179
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1883 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1883	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1704	Exhibit 13-8	4700	No
V_R	179	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1883	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 19.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.314 (Exhibit 13-12)

S_R= 57.8 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company		Junction	Roselle Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1660	V_D = veh/h
	Ramp Volume, V_R: 160	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1660	0.95	Level	13	0	0.939	1.00	1861
Ramp	160	0.95	Level	13	0	0.939	1.00	179
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1861 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1861	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1682	Exhibit 13-8	4700	No
V_R	179	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1861	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 18.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.314 (Exhibit 13-12)

S_R= 57.8 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Roselle Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1430	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	160	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1430	0.95	Level	13	0	0.939	1.00	1603
Ramp	160	0.95	Level	13	0	0.939	1.00	179
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1603 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1603	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1424	Exhibit 13-8	4700	No
V_R	179	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1603	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 16.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.314 (Exhibit 13-12)

S_R= 57.8 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Roselle Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1400	V_D = veh/h
	Ramp Volume, V_R: 160	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1400	0.95	Level	13	0	0.939	1.00	1569
Ramp	160	0.95	Level	13	0	0.939	1.00	179
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1569 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1569	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1390	Exhibit 13-8	4700	No
V_R	179	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1569	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 16.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.314 (Exhibit 13-12)

S_R= 57.8 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1520	V_D = veh/h
	Ramp Volume, V_R: 480	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1520	0.95	Level	13	0	0.939	1.00	1704
Ramp	480	0.95	Level	13	0	0.939	1.00	538
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1704 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2242	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2242	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 19.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.304 (Exibit 13-11)

S_R= 58.0 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	600
Deceleration Lane Length L_D	
Freeway Volume, V_F	1500
Ramp Volume, V_R	480
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1500	0.95	Level	13	0	0.939	1.00	1682
Ramp	480	0.95	Level	13	0	0.939	1.00	538
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1682 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2220	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2220	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 18.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.303 (Exibit 13-11)

S_R= 58.0 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1270	V_D = veh/h
	Ramp Volume, V_R: 480	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1270	0.95	Level	13	0	0.939	1.00	1424
Ramp	480	0.95	Level	13	0	0.939	1.00	538
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1424 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1962	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1962	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 16.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.295 (Exibit 13-11)

S_R= 58.2 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1240	V_D = veh/h
	Ramp Volume, V_R: 480	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1240	0.95	Level	13	0	0.939	1.00	1390
Ramp	480	0.95	Level	13	0	0.939	1.00	538
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1390 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1928	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1928	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 16.5 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.294 (Exibit 13-11)

S_R= 58.2 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company		From/To	*Coffee Road/Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2042 Alternative 1A*
Project Description			

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2480*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*914*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*14.1*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company		From/To	*Coffee Road/Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2042 Alternative 1B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2460*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*906*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*13.9*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company	*Fehr & Peers*	From/To	*Coffee Road/Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2042 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2370*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*873*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*13.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company	*Fehr & Peers*	From/To	*Coffee Road/Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2360*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*869*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*13.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1960	V_D = veh/h
	Ramp Volume, V_R: 520	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1960	0.95	Level	10	0	0.952	1.00	2166
Ramp	520	0.95	Level	10	0	0.952	1.00	575
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 1287 pc/h

V_3 or V_{av34} 879 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2741	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1862	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 16.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.292 (Exibit 13-11)

S_R= 58.3 mph (Exhibit 13-11)

S_0= 63.6 mph (Exhibit 13-11)

S = 59.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1940	V_D = veh/h
	Ramp Volume, V_R: 520	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1940	0.95	Level	10	0	0.952	1.00	2144
Ramp	520	0.95	Level	10	0	0.952	1.00	575
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 1274 pc/h

V_3 or V_{av34} 870 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2719	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1849	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.292 (Exibit 13-11)

S_R= 58.3 mph (Exhibit 13-11)

S_0= 63.7 mph (Exhibit 13-11)

S = 59.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1900	V_D = veh/h
	Ramp Volume, V_R: 470	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1900	0.95	Level	10	0	0.952	1.00	2100
Ramp	470	0.95	Level	10	0	0.952	1.00	519
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 1248 pc/h

V_3 or V_{av34} 852 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2619	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1767	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.290 (Exibit 13-11)

S_R= 58.3 mph (Exhibit 13-11)

S_0= 63.7 mph (Exhibit 13-11)

S = 60.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1890	V_D = veh/h
	Ramp Volume, V_R: 470	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1890	0.95	Level	10	0	0.952	1.00	2089
Ramp	470	0.95	Level	10	0	0.952	1.00	519
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 1241 pc/h

V_3 or V_{av34} 848 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2608	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1760	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.2 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.290 (Exibit 13-11)

S_R= 58.3 mph (Exhibit 13-11)

S_0= 63.7 mph (Exhibit 13-11)

S = 60.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Ave*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2042 Alternative 1A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2190*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1210*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*18.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Ave*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2042 Alternative 1B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2150*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
			Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1188*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*18.3*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/EB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Roselle Ave*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2042 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1900*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
			Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1050*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*16.2*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor EB*
Agency or Company	*Fehr & Peers*	From/To	*Coffee Road/Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2360*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*869*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*13.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company		Junction	Oakdale Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	1500	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	2480	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	830	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2480	0.95	Level	10	0	0.952	1.00	2741
Ramp	830	0.95	Level	10	0	0.952	1.00	917
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2741 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2741	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1824	Exhibit 13-8	4700	No
V_R	917	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2741	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 14.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.381 (Exhibit 13-12)

S_R= 56.2 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 56.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	1500	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	2460	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	850	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2460	0.95	Level	10	0	0.952	1.00	2719
Ramp	850	0.95	Level	10	0	0.952	1.00	939
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2719 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2719	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1780	Exhibit 13-8	4700	No
V_R	939	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2719	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 14.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.383 (Exhibit 13-12)

S_R= 56.2 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 56.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	1500	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	2370	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	960	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2370	0.95	Level	10	0	0.952	1.00	2619
Ramp	960	0.95	Level	10	0	0.952	1.00	1061
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2619 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2619	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1558	Exhibit 13-8	4700	No
V_R	1061	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2619	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 13.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.393 (Exhibit 13-12)

S_R= 55.9 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 55.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Coffee Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1890	V_D = veh/h
	Ramp Volume, V_R: 470	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1890	0.95	Level	10	0	0.952	1.00	2089
Ramp	470	0.95	Level	10	0	0.952	1.00	519
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 1241 pc/h

V_3 or V_{av34} 848 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2608	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1760	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.2 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.290 (Exibit 13-11)

S_R= 58.3 mph (Exhibit 13-11)

S_0= 63.7 mph (Exhibit 13-11)

S = 60.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 1500	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1650	V_D = veh/h
	Ramp Volume, V_R: 540	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1650	0.95	Level	10	0	0.952	1.00	1824
Ramp	540	0.95	Level	10	0	0.952	1.00	597
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1824 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2421	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2421	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 14.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.230 (Exibit 13-11)

S_R= 59.7 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 59.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 1500	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1610	V_D = veh/h
	Ramp Volume, V_R: 540	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1610	0.95	Level	10	0	0.952	1.00	1779
Ramp	540	0.95	Level	10	0	0.952	1.00	597
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1779 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2376	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2376	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 14.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.228 (Exibit 13-11)

S_R= 59.8 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 59.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 1500	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1410	V_D = veh/h
	Ramp Volume, V_R: 490	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1410	0.95	Level	10	0	0.952	1.00	1558
Ramp	490	0.95	Level	10	0	0.952	1.00	542
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1558 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2100	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2100	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 12.2 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.218 (Exibit 13-11)

S_R= 60.0 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 60.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 1500	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1390	V_D = veh/h
	Ramp Volume, V_R: 450	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1390	0.95	Level	10	0	0.952	1.00	1536
Ramp	450	0.95	Level	10	0	0.952	1.00	497
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1536 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2033	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2033	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 11.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.216 (Exibit 13-11)

S_R= 60.0 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 60.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company		Junction	Roselle Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	2160	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	430	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2160	0.95	Level	10	0	0.952	1.00	2387
Ramp	430	0.95	Level	10	0	0.952	1.00	475
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2387 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2387	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1912	Exhibit 13-8	4700	No
V_R	475	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2387	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 23.4 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.341 (Exhibit 13-12)

S_R= 57.2 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Roselle Ave Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	150
Freeway Volume, V_F	2150
Ramp Volume, V_R	430
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2150	0.95	Level	10	0	0.952	1.00	2376
Ramp	430	0.95	Level	10	0	0.952	1.00	475
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2376 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2376	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1901	Exhibit 13-8	4700	No
V_R	475	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2376	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 23.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.341 (Exhibit 13-12)

S_R= 57.2 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Roselle Ave Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1900	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	430	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1900	0.95	Level	10	0	0.952	1.00	2100
Ramp	430	0.95	Level	10	0	0.952	1.00	475
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2100 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2100	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1625	Exhibit 13-8	4700	No
V_R	475	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2100	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 21.0 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.341 (Exhibit 13-12)

S_R= 57.2 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor EB
Agency or Company	Fehr & Peers	Junction	Roselle Ave Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1840	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	430	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1840	0.95	Level	10	0	0.952	1.00	2034
Ramp	430	0.95	Level	10	0	0.952	1.00	475
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2034 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2034	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1559	Exhibit 13-8	4700	No
V_R	475	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2034	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 20.4 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.341 (Exhibit 13-12)

S_R= 57.2 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1760	V_D = veh/h
	Ramp Volume, V_R: 370	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1760	0.95	Level	10	0	0.952	1.00	1945
Ramp	370	0.95	Level	10	0	0.952	1.00	409
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1945 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2354	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2354	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 19.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.308 (Exibit 13-11)

S_R= 57.9 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 57.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company		Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1720	V_D = veh/h
	Ramp Volume, V_R: 370	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1720	0.95	Level	10	0	0.952	1.00	1901
Ramp	370	0.95	Level	10	0	0.952	1.00	409
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1901 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2310	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2310	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 19.5 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.306 (Exibit 13-11)

S_R= 58.0 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1470	V_D = veh/h
	Ramp Volume, V_R: 370	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1470	0.95	Level	10	0	0.952	1.00	1625
Ramp	370	0.95	Level	10	0	0.952	1.00	409
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1625 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2034	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2034	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 17.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.297 (Exibit 13-11)

S_R= 58.2 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/EB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1410	V_D = veh/h
	Ramp Volume, V_R: 370	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1410	0.95	Level	10	0	0.952	1.00	1558
Ramp	370	0.95	Level	10	0	0.952	1.00	409
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1558 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1967	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1967	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 16.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.295 (Exibit 13-11)

S_R= 58.2 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company		From/To	*Oakdale Road/Coffee Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 1A*
Project Description			

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2210*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*826*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*12.7*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company		From/To	*Oakdale Road/Coffee Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 1B*
Project Description			

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2190*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*818*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*12.6*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Coffee Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2060*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*770*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*11.8*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Coffee Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 2B*
Project Description			

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2060*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*770*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*11.8*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Coffee Road Off-Ramp
Date Performed	3/21/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	3	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	2210	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	420	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2210	0.95	Level	13	0	0.939	1.00	2478
Ramp	420	0.95	Level	13	0	0.939	1.00	471
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.676 using Equation (Exhibit 13-7)

V_{12} = 1829 pc/h

V_3 or V_{av34} 649 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2478	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	2007	Exhibit 13-8	7050	No
V_R	471	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1829	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 18.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.340 (Exhibit 13-12)

S_R= 57.2 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Coffee Road Off-Ramp
Date Performed	3/21/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	3	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	2190	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	420	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2190	0.95	Level	13	0	0.939	1.00	2455
Ramp	420	0.95	Level	13	0	0.939	1.00	471
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.677 using Equation (Exhibit 13-7)

V_{12} = 1814 pc/h

V_3 or V_{av34} 641 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2455	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	1984	Exhibit 13-8	7050	No
V_R	471	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1814	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 18.5 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.340 (Exhibit 13-12)

S_R= 57.2 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Coffee Road Off-Ramp
Date Performed	3/21/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 2060	V_D = veh/h
	Ramp Volume, V_R: 380	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2060	0.95	Level	13	0	0.939	1.00	2309
Ramp	380	0.95	Level	13	0	0.939	1.00	426
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.683 using Equation (Exhibit 13-7)

V_{12} = 1711 pc/h

V_3 or V_{av34} 598 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2309	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	1883	Exhibit 13-8	7050	No
V_R	426	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1711	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 17.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.336 (Exhibit 13-12)

S_R= 57.3 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Coffee Road Off-Ramp
Date Performed	3/21/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 2060	V_D = veh/h
	Ramp Volume, V_R: 380	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2060	0.95	Level	13	0	0.939	1.00	2309
Ramp	380	0.95	Level	13	0	0.939	1.00	426
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.683 using Equation (Exhibit 13-7)

V_{12} = 1711 pc/h

V_3 or V_{av34} 598 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2309	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	1883	Exhibit 13-8	7050	No
V_R	426	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1711	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 17.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.336 (Exhibit 13-12)

S_R= 57.3 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	McHenry Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 2080	V_D = veh/h
	Ramp Volume, V_R: 410	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2080	0.95	Level	13	0	0.939	1.00	2332
Ramp	410	0.95	Level	13	0	0.939	1.00	460
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 1386 pc/h

V_3 or V_{av34} 946 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2792	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1846	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.292 (Exibit 13-11)

S_R= 58.3 mph (Exhibit 13-11)

S_0= 63.4 mph (Exhibit 13-11)

S = 59.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	McHenry Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 2060	V_D = veh/h
	Ramp Volume, V_R: 430	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2060	0.95	Level	13	0	0.939	1.00	2309
Ramp	430	0.95	Level	13	0	0.939	1.00	482
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 1372 pc/h

V_3 or V_{av34} 937 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2791	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1854	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 16.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.292 (Exibit 13-11)

S_R= 58.3 mph (Exhibit 13-11)

S_0= 63.4 mph (Exhibit 13-11)

S = 59.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	McHenry Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1990	V_D = veh/h
	Ramp Volume, V_R: 410	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1990	0.95	Level	13	0	0.939	1.00	2231
Ramp	410	0.95	Level	13	0	0.939	1.00	460
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 1326 pc/h

V_3 or V_{av34} 905 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2691	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1786	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.290 (Exibit 13-11)

S_R= 58.3 mph (Exhibit 13-11)

S_0= 63.5 mph (Exhibit 13-11)

S = 60.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	McHenry Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1990	V_D = veh/h
	Ramp Volume, V_R: 410	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1990	0.95	Level	13	0	0.939	1.00	2231
Ramp	410	0.95	Level	13	0	0.939	1.00	460
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 1326 pc/h

V_3 or V_{av34} 905 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2691	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1786	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.290 (Exibit 13-11)

S_R= 58.3 mph (Exhibit 13-11)

S_0= 63.5 mph (Exhibit 13-11)

S = 60.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 1A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1930*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1082*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*16.6*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 1A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1900*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1065*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*16.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1900*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1065*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*16.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2042 Alternative 2B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1900*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1065*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*16.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company		Junction	Oakdale Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1930	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	330	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1930	0.95	Level	13	0	0.939	1.00	2164
Ramp	330	0.95	Level	13	0	0.939	1.00	370
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2164 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2164	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1794	Exhibit 13-8	4700	No
V_R	370	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2164	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 21.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.331 (Exhibit 13-12)

S_R= 57.4 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company		Junction	Oakdale Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1900	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	320	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1900	0.95	Level	13	0	0.939	1.00	2130
Ramp	320	0.95	Level	13	0	0.939	1.00	359
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2130 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2130	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1771	Exhibit 13-8	4700	No
V_R	359	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2130	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 21.2 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.330 (Exhibit 13-12)

S_R= 57.4 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1660	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	280	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1660	0.95	Level	13	0	0.939	1.00	1861
Ramp	280	0.95	Level	13	0	0.939	1.00	314
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1861 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1861	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1547	Exhibit 13-8	4700	No
V_R	314	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1861	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 18.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.326 (Exhibit 13-12)

S_R= 57.5 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1610	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	230	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1610	0.95	Level	13	0	0.939	1.00	1805
Ramp	230	0.95	Level	13	0	0.939	1.00	258
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1805 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1805	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1547	Exhibit 13-8	4700	No
V_R	258	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1805	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 18.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.321 (Exhibit 13-12)

S_R= 57.6 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1600	V_D = veh/h
	Ramp Volume, V_R: 610	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1600	0.95	Level	13	0	0.939	1.00	1794
Ramp	610	0.95	Level	13	0	0.939	1.00	684
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1794 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2478	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2478	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 20.7 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.313 (Exibit 13-11)

S_R= 57.8 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 57.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1580	V_D = veh/h
	Ramp Volume, V_R: 610	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1580	0.95	Level	13	0	0.939	1.00	1771
Ramp	610	0.95	Level	13	0	0.939	1.00	684
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1771 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2455	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2455	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 20.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.312 (Exibit 13-11)

S_R= 57.8 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 57.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1380	V_D = veh/h
	Ramp Volume, V_R: 680	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1380	0.95	Level	13	0	0.939	1.00	1547
Ramp	680	0.95	Level	13	0	0.939	1.00	762
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1547 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2309	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2309	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 19.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.306 (Exibit 13-11)

S_R= 58.0 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1380	V_D = veh/h
	Ramp Volume, V_R: 680	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1380	0.95	Level	13	0	0.939	1.00	1547
Ramp	680	0.95	Level	13	0	0.939	1.00	762
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1547 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2309	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2309	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 19.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.306 (Exibit 13-11)

S_R= 58.0 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company		Junction	Roselle Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1950	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	340	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1950	0.95	Level	13	0	0.939	1.00	2186
Ramp	340	0.95	Level	13	0	0.939	1.00	381
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2186 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2186	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1805	Exhibit 13-8	4700	No
V_R	381	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2186	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 21.7 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.332 (Exhibit 13-12)

S_R= 57.4 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company		Junction	Roselle Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1910	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	330	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1910	0.95	Level	13	0	0.939	1.00	2141
Ramp	330	0.95	Level	13	0	0.939	1.00	370
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2141 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2141	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1771	Exhibit 13-8	4700	No
V_R	370	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2141	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 21.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.331 (Exhibit 13-12)

S_R= 57.4 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Roselle Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1620	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	280	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1620	0.95	Level	13	0	0.939	1.00	1816
Ramp	280	0.95	Level	13	0	0.939	1.00	314
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1816 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1816	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1502	Exhibit 13-8	4700	No
V_R	314	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1816	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 18.5 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.326 (Exhibit 13-12)

S_R= 57.5 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Roselle Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1540	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	250	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1540	0.95	Level	13	0	0.939	1.00	1726
Ramp	250	0.95	Level	13	0	0.939	1.00	280
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1726 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1726	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1446	Exhibit 13-8	4700	No
V_R	280	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1726	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 17.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.323 (Exhibit 13-12)

S_R= 57.6 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	600
Deceleration Lane Length L_D	
Freeway Volume, V_F	1610
Ramp Volume, V_R	320
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1610	0.95	Level	13	0	0.939	1.00	1805
Ramp	320	0.95	Level	13	0	0.939	1.00	359
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1805 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2164	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2164	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 18.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.301 (Exibit 13-11)

S_R= 58.1 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1580	V_D = veh/h
	Ramp Volume, V_R: 320	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1580	0.95	Level	13	0	0.939	1.00	1771
Ramp	320	0.95	Level	13	0	0.939	1.00	359
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1771 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2130	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2130	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 18.2 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.300 (Exibit 13-11)

S_R= 58.1 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	600
Deceleration Lane Length L_D	
Freeway Volume, V_F	1340
Ramp Volume, V_R	320
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1340	0.95	Level	13	0	0.939	1.00	1502
Ramp	320	0.95	Level	13	0	0.939	1.00	359
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1502 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1861	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1861	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 16.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.292 (Exibit 13-11)

S_R= 58.3 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1290	V_D = veh/h
	Ramp Volume, V_R: 320	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1290	0.95	Level	13	0	0.939	1.00	1446
Ramp	320	0.95	Level	13	0	0.939	1.00	359
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1446 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1805	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1805	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.291 (Exibit 13-11)

S_R= 58.3 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company		From/To	*Oakdale Road/Coffee Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2042 Alternative 1A*
Project Description			

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2130*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*785*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*12.1*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company		From/To	*Oakdale Road/Coffee Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2042 Alternative 1B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2110*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs			Calc Speed Adj and FFS		
Lane Width		ft			
Rt-Side Lat. Clearance		ft	f_{LW}		mph
Number of Lanes, N	*3*		f_{LC}		mph
Total Ramp Density, TRD		ramps/mi	TRD Adjustment		mph
FFS (measured)	*65.0*	mph	FFS	*65.0*	mph
Base free-flow Speed, BFFS		mph			

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*777*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	*65.0*	mph	S	mph
D = v_p / S	*12.0*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Coffee Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2042 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1850*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*682*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*10.5*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor WB*
Agency or Company	*Fehr & Peers*	From/To	*Oakdale Road/Coffee Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2042 Alternative 2B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1840*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*678*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*10.4*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Coffee Road Off-Ramp
Date Performed	3/21/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	3	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	2130	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	430	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2130	0.95	Level	10	0	0.952	1.00	2354
Ramp	430	0.95	Level	10	0	0.952	1.00	475
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.679 using Equation (Exhibit 13-7)

V_{12} = 1751 pc/h

V_3 or V_{av34} 603 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2354	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	1879	Exhibit 13-8	7050	No
V_R	475	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1751	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 18.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.341 (Exhibit 13-12)

S_R= 57.2 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Coffee Road Off-Ramp
Date Performed	3/21/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 2110	V_D = veh/h
	Ramp Volume, V_R: 430	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2110	0.95	Level	10	0	0.952	1.00	2332
Ramp	430	0.95	Level	10	0	0.952	1.00	475
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.680 using Equation (Exhibit 13-7)

V_{12} = 1737 pc/h

V_3 or V_{av34} 595 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2332	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	1857	Exhibit 13-8	7050	No
V_R	475	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1737	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 17.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.341 (Exhibit 13-12)

S_R= 57.2 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Coffee Road Off-Ramp
Date Performed	3/21/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1850	V_D = veh/h
	Ramp Volume, V_R: 390	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1850	0.95	Level	10	0	0.952	1.00	2045
Ramp	390	0.95	Level	10	0	0.952	1.00	431
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.689 using Equation (Exhibit 13-7)

V_{12} = 1543 pc/h

V_3 or V_{av34} 502 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2045	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	1614	Exhibit 13-8	7050	No
V_R	431	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1543	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 16.2 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.337 (Exhibit 13-12)

S_R= 57.3 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Coffee Road Off-Ramp
Date Performed	3/21/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1840	V_D = veh/h
	Ramp Volume, V_R: 380	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1840	0.95	Level	10	0	0.952	1.00	2034
Ramp	380	0.95	Level	10	0	0.952	1.00	420
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.690 using Equation (Exhibit 13-7)

V_{12} = 1533 pc/h

V_3 or V_{av34} 501 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2034	Exhibit 13-8	7050	No
$V_{FO} = V_F - V_R$	1614	Exhibit 13-8	7050	No
V_R	420	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1533	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 16.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.336 (Exhibit 13-12)

S_R= 57.3 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 60.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	McHenry Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1680	V_D = veh/h
	Ramp Volume, V_R: 430	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1680	0.95	Level	10	0	0.952	1.00	1857
Ramp	430	0.95	Level	10	0	0.952	1.00	475
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 1104 pc/h

V_3 or V_{av34} 753 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2332	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1579	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 13.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.286 (Exibit 13-11)

S_R= 58.4 mph (Exhibit 13-11)

S_0= 64.1 mph (Exhibit 13-11)

S = 60.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	McHenry Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1660	V_D = veh/h
	Ramp Volume, V_R: 450	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1660	0.95	Level	10	0	0.952	1.00	1835
Ramp	450	0.95	Level	10	0	0.952	1.00	497
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 1091 pc/h

V_3 or V_{av34} 744 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2332	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1588	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 13.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.286 (Exibit 13-11)

S_R= 58.4 mph (Exhibit 13-11)

S_0= 64.1 mph (Exhibit 13-11)

S = 60.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	McHenry Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1530	V_D = veh/h
	Ramp Volume, V_R: 410	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1530	0.95	Level	10	0	0.952	1.00	1691
Ramp	410	0.95	Level	10	0	0.952	1.00	453
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 1005 pc/h

V_3 or V_{av34} 686 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2144	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1458	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 12.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.284 (Exibit 13-11)

S_R= 58.5 mph (Exhibit 13-11)

S_0= 64.3 mph (Exhibit 13-11)

S = 60.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	McHenry Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1530	V_D = veh/h
	Ramp Volume, V_R: 410	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1530	0.95	Level	10	0	0.952	1.00	1691
Ramp	410	0.95	Level	10	0	0.952	1.00	453
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.594 using Equation (Exhibit 13-6)

V_{12} = 1005 pc/h

V_3 or V_{av34} 686 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2144	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1458	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 12.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.284 (Exibit 13-11)

S_R= 58.5 mph (Exhibit 13-11)

S_0= 64.3 mph (Exhibit 13-11)

S = 60.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2042 Alternative 1A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2190*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1210*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*18.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2042 Alternative 1B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2170*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1199*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*18.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2042 Alternative 2A*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1800*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*995*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*15.3*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*KC*	Highway/Direction of Travel	*North County Corridor/WB*
Agency or Company	*Fehr & Peers*	From/To	*Roselle Ave to Oakdale Road*
Date Performed	*3/20/2014*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2042 Alternative 2B*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1760*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	*65.0*	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	*65.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*973*	pc/h/ln
S	*65.0*	mph
D = v_p / S	*15.0*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes
V - Hourly volume
v_p - Flow rate
LOS - Level of service
S - Speed
D - Density
FFS - Free-flow speed
BFFS - Base free-flow speed
DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 11-10, 11-12
E_T - Exhibits 11-10, 11-11, 11-13
f_p - Page 11-18
LOS, S, FFS, v_p - Exhibits 11-2, 11-3
f_{LW} - Exhibit 11-8
f_{LC} - Exhibit 11-9
TRD - Page 11-11

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company		Junction	Oakdale Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 2190	V_D = veh/h
	Ramp Volume, V_R: 500	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2190	0.95	Level	10	0	0.952	1.00	2421
Ramp	500	0.95	Level	10	0	0.952	1.00	553
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2421 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2421	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1868	Exhibit 13-8	4700	No
V_R	553	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2421	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 23.7 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.348 (Exhibit 13-12)

S_R= 57.0 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company		Junction	Oakdale Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	2170	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	500	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2170	0.95	Level	10	0	0.952	1.00	2398
Ramp	500	0.95	Level	10	0	0.952	1.00	553
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2398 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2398	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1845	Exhibit 13-8	4700	No
V_R	553	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2398	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 23.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.348 (Exhibit 13-12)

S_R= 57.0 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1800	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	490	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1800	0.95	Level	10	0	0.952	1.00	1989
Ramp	490	0.95	Level	10	0	0.952	1.00	542
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1989 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1989	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1447	Exhibit 13-8	4700	No
V_R	542	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1989	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 20.0 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.347 (Exhibit 13-12)

S_R= 57.0 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1760	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	460	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1760	0.95	Level	10	0	0.952	1.00	1945
Ramp	460	0.95	Level	10	0	0.952	1.00	508
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1945 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1945	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1437	Exhibit 13-8	4700	No
V_R	508	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1945	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 19.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.344 (Exhibit 13-12)

S_R= 57.1 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1690	V_D = veh/h
	Ramp Volume, V_R: 440	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1690	0.95	Level	10	0	0.952	1.00	1868
Ramp	440	0.95	Level	10	0	0.952	1.00	486
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1868 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2354	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2354	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 19.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.308 (Exibit 13-11)

S_R= 57.9 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 57.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1670	V_D = veh/h
	Ramp Volume, V_R: 440	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1670	0.95	Level	10	0	0.952	1.00	1846
Ramp	440	0.95	Level	10	0	0.952	1.00	486
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1846 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2332	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2332	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 19.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.307 (Exibit 13-11)

S_R= 57.9 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 57.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	600
Deceleration Lane Length L_D	
Freeway Volume, V_F	1310
Ramp Volume, V_R	540
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1310	0.95	Level	10	0	0.952	1.00	1448
Ramp	540	0.95	Level	10	0	0.952	1.00	597
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1448 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2045	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2045	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 17.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.297 (Exibit 13-11)

S_R= 58.2 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Oakdale Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1300	V_D = veh/h
	Ramp Volume, V_R: 540	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1300	0.95	Level	10	0	0.952	1.00	1437
Ramp	540	0.95	Level	10	0	0.952	1.00	597
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1437 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2034	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2034	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 17.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.297 (Exibit 13-11)

S_R= 58.2 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company		Junction	Roselle Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 2250	V_D = veh/h
	Ramp Volume, V_R: 280	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2250	0.95	Level	10	0	0.952	1.00	2487
Ramp	280	0.95	Level	10	0	0.952	1.00	309
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2487 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2487	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	2178	Exhibit 13-8	4700	No
V_R	309	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2487	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 24.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.326 (Exhibit 13-12)

S_R= 57.5 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Roselle Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 2230	V_D = veh/h
	Ramp Volume, V_R: 280	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2230	0.95	Level	10	0	0.952	1.00	2465
Ramp	280	0.95	Level	10	0	0.952	1.00	309
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2465 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2465	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	2156	Exhibit 13-8	4700	No
V_R	309	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2465	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 24.1 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.326 (Exhibit 13-12)

S_R= 57.5 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Roselle Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Acceleration Lane Length, L_A		☐ Yes	☐ On
☑ No	☐ Off	Deceleration Lane Length L_D	150	☑ No	☐ Off
L_{up} =	ft	Freeway Volume, V_F	1840	L_{down} =	ft
V_u =	veh/h	Ramp Volume, V_R	260	V_D =	veh/h
		Freeway Free-Flow Speed, S_{FF}	65.0		
		Ramp Free-Flow Speed, S_{FR}	45.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1840	0.95	Level	10	0	0.952	1.00	2034
Ramp	260	0.95	Level	10	0	0.952	1.00	287
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2034 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2034	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1747	Exhibit 13-8	4700	No
V_R	287	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2034	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 20.4 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.324 (Exhibit 13-12)

S_R= 57.6 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor WB
Agency or Company	Fehr & Peers	Junction	Roselle Road Off-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A:	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D: 150	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1800	V_D = veh/h
	Ramp Volume, V_R: 260	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1800	0.95	Level	10	0	0.952	1.00	1989
Ramp	260	0.95	Level	10	0	0.952	1.00	287
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 1989 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * $V_{12}/2$ ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	1989	Exhibit 13-8	4700	No
$V_{FO} = V_F - V_R$	1702	Exhibit 13-8	4700	No
V_R	287	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1989	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 20.0 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.324 (Exhibit 13-12)

S_R= 57.6 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 57.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company		Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1970	V_D = veh/h
	Ramp Volume, V_R: 220	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1970	0.95	Level	10	0	0.952	1.00	2177
Ramp	220	0.95	Level	10	0	0.952	1.00	243
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 2177 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2420	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2420	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 20.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.311 (Exibit 13-11)

S_R= 57.9 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 57.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 1B

Project Description

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Number of Lanes, N	2
Acceleration Lane Length, L_A	600
Deceleration Lane Length L_D	
Freeway Volume, V_F	1950
Ramp Volume, V_R	220
Freeway Free-Flow Speed, S_{FF}	65.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1950	0.95	Level	10	0	0.952	1.00	2155
Ramp	220	0.95	Level	10	0	0.952	1.00	243
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 2155 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2398	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2398	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 20.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.310 (Exibit 13-11)

S_R= 57.9 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 57.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2A

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1580	V_D = veh/h
	Ramp Volume, V_R: 220	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1580	0.95	Level	10	0	0.952	1.00	1746
Ramp	220	0.95	Level	10	0	0.952	1.00	243
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1746 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1989	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1989	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 17.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.296 (Exibit 13-11)

S_R= 58.2 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	KC	Freeway/Dir of Travel	North County Corridor/WB
Agency or Company	Fehr & Peers	Junction	Roselle Road On-Ramp
Date Performed	3/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2042 Alternative 2B

Project Description

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Acceleration Lane Length, L_A: 600	☑ No ☐ Off
L_{up} = ft	Deceleration Lane Length L_D:	L_{down} = ft
V_u = veh/h	Freeway Volume, V_F: 1540	V_D = veh/h
	Ramp Volume, V_R: 220	
	Freeway Free-Flow Speed, S_{FF}: 65.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	1540	0.95	Level	10	0	0.952	1.00	1702
Ramp	220	0.95	Level	10	0	0.952	1.00	243
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1702 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	1945	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1945	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 16.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.294 (Exibit 13-11)

S_R= 58.2 mph (Exhibit 13-11)

S_0= N/A mph (Exhibit 13-11)

S = 58.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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Leisch Method for Weaving Analysis

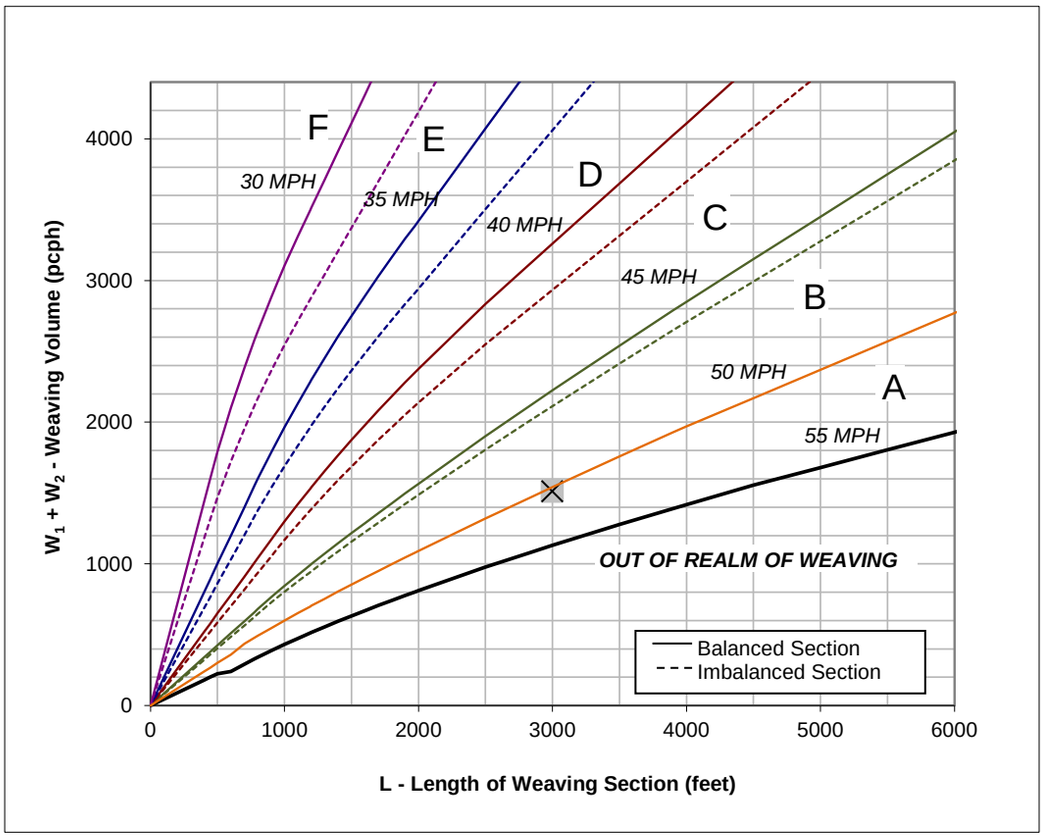
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

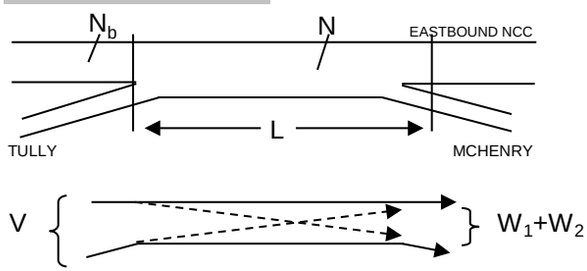
Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,590	Volume (vph)*	860	Volume (vph)*	580
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,720	Volume (pcph)	903	Volume (pcph)	609

Project Information

Project	NCC
Scenario	2042 PM - ALT 2A
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



Figure



Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **50.4**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **680**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

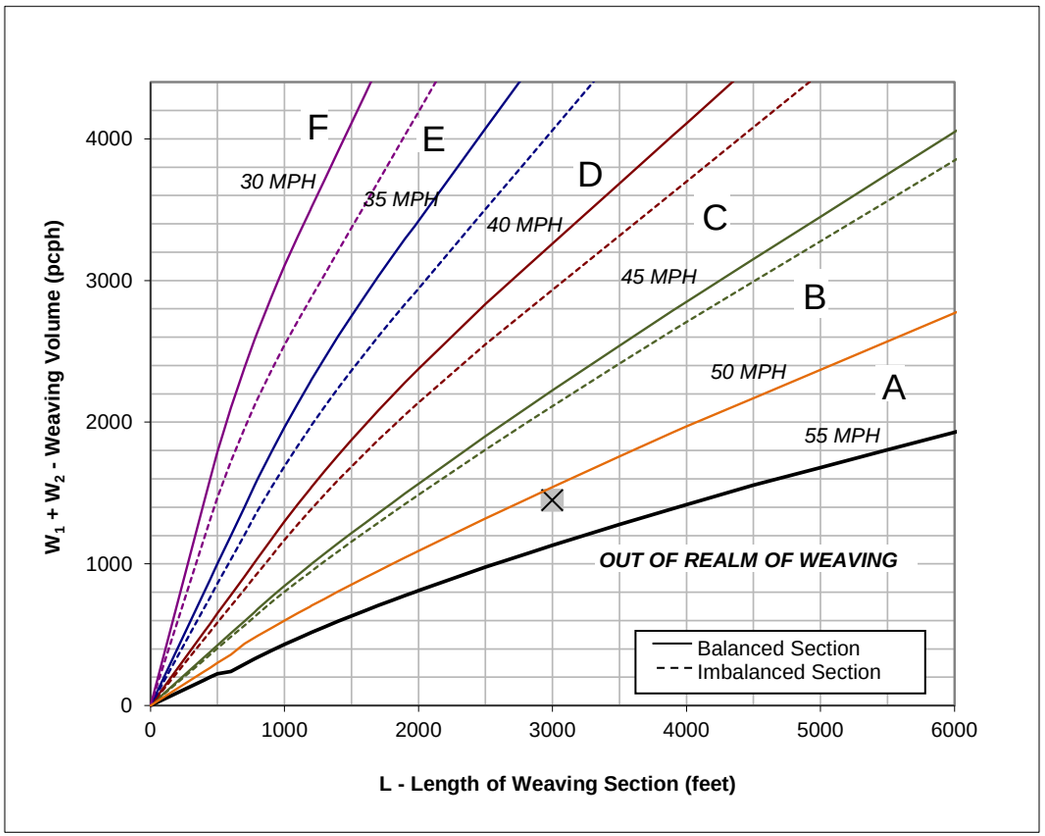
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

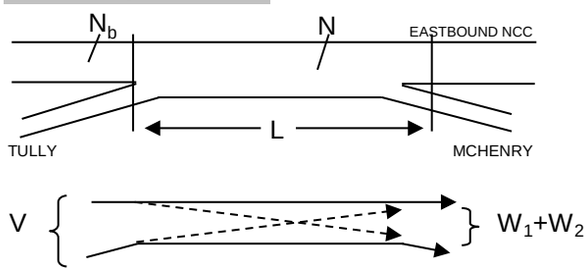
Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,570	Volume (vph)*	820	Volume (vph)*	560
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,699	Volume (pcph)	861	Volume (pcph)	588

Project Information

Project	NCC
Scenario	2042 PM - ALT 1B
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



Figure



Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **51.1**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **675**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

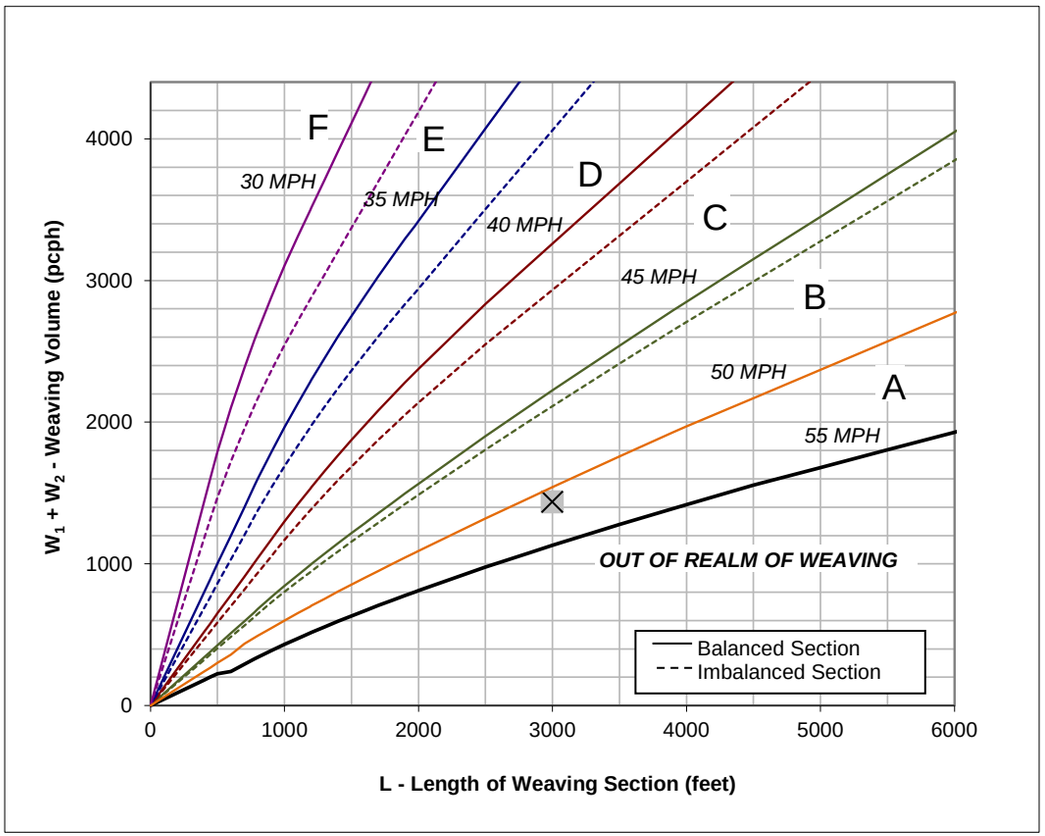
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,570	Volume (vph)*	820	Volume (vph)*	550
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,699	Volume (pcph)	861	Volume (pcph)	578

Project Information

Project	NCC
Scenario	2042 PM - ALT 1A
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



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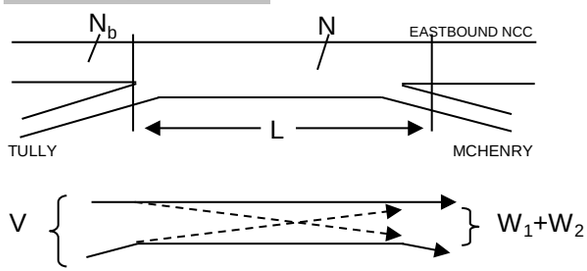


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **51.3**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **675**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

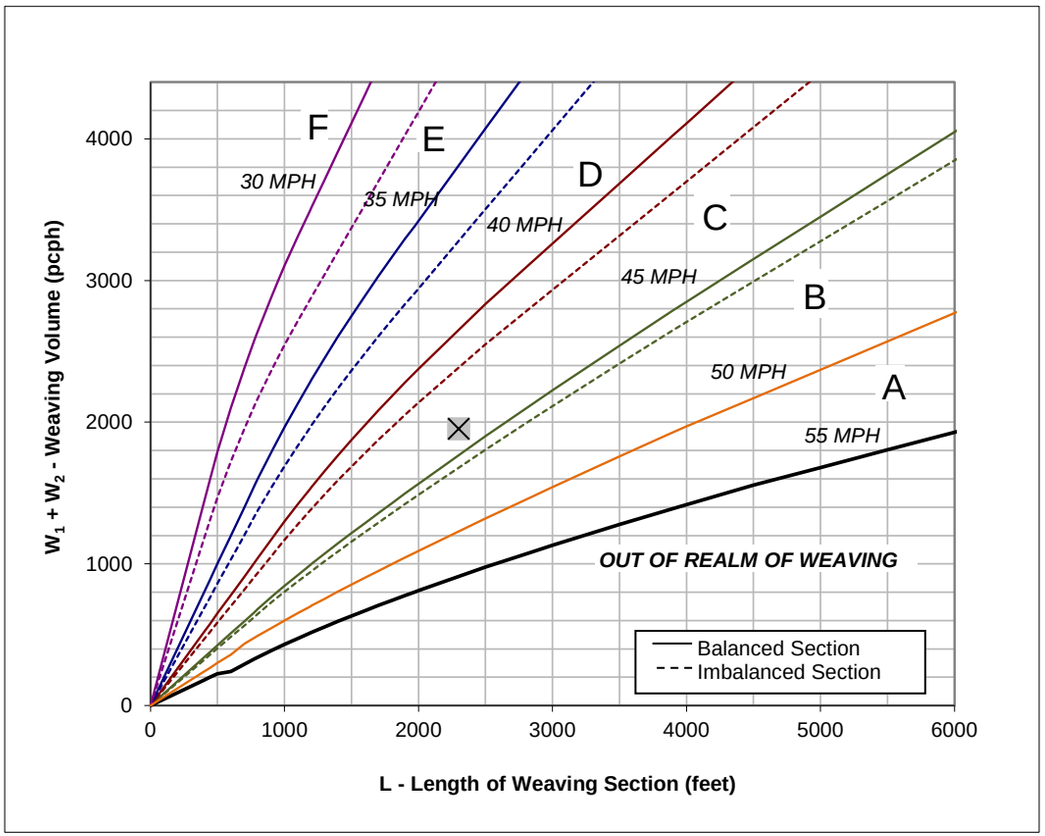
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,880	Volume (vph)*	870	Volume (vph)*	990
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,024	Volume (pcph)	914	Volume (pcph)	1,040

Project Information

Project	NCC
Scenario	2042 PM - ALT 2B
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



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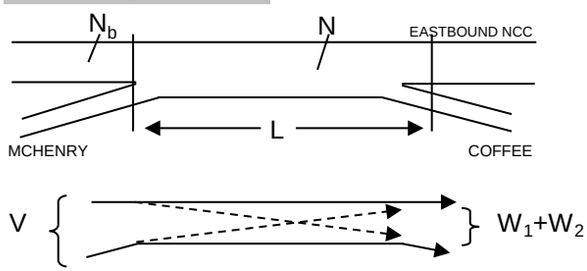


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   40 MPH and **45 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **44.0**
4. Weaving Intensity Factor (k) **2.10**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,007**
6. Level of Service (LOS) **B**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

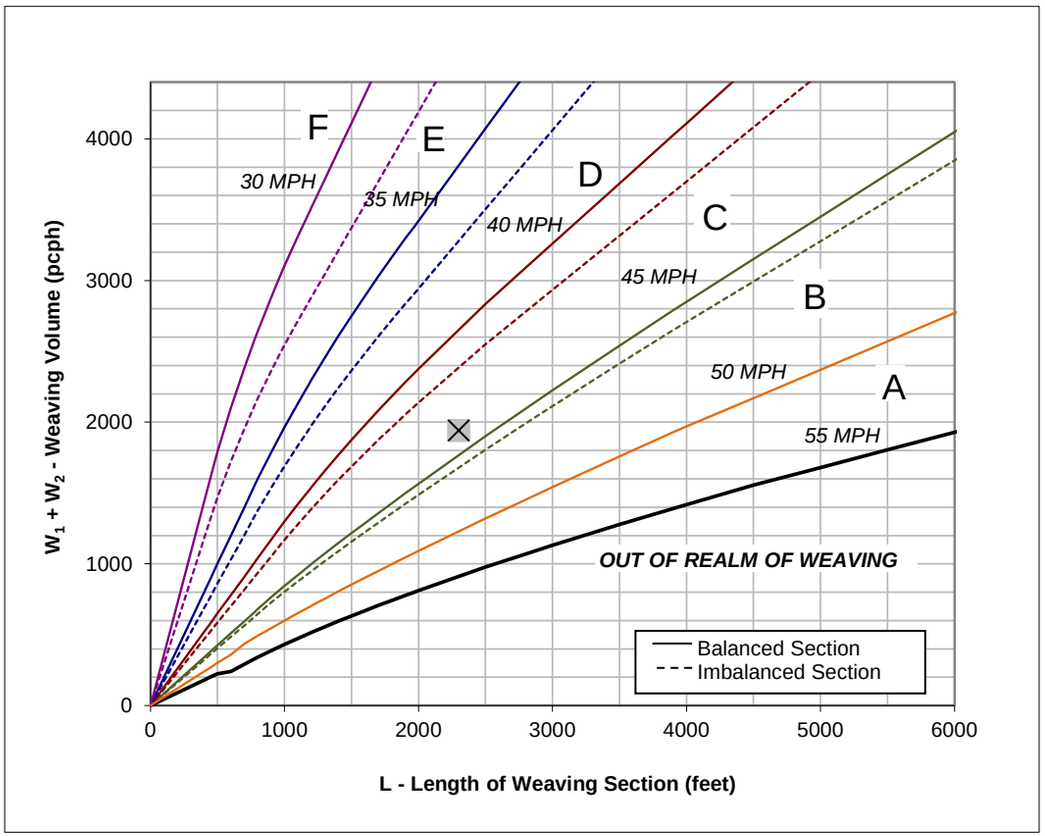
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,880	Volume (vph)*	870	Volume (vph)*	980
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,024	Volume (pcph)	914	Volume (pcph)	1,029

Project Information

Project	NCC
Scenario	2042 PM - ALT 2A
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



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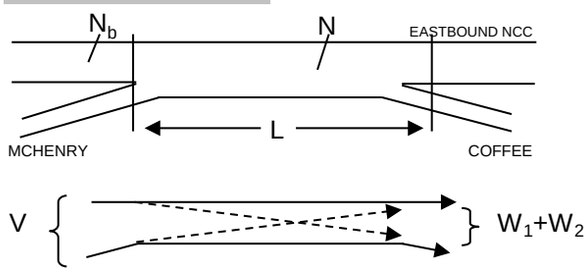


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   40 MPH and **45 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **44.0**
4. Weaving Intensity Factor (k) **2.10**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,007**
6. Level of Service (LOS) **B**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

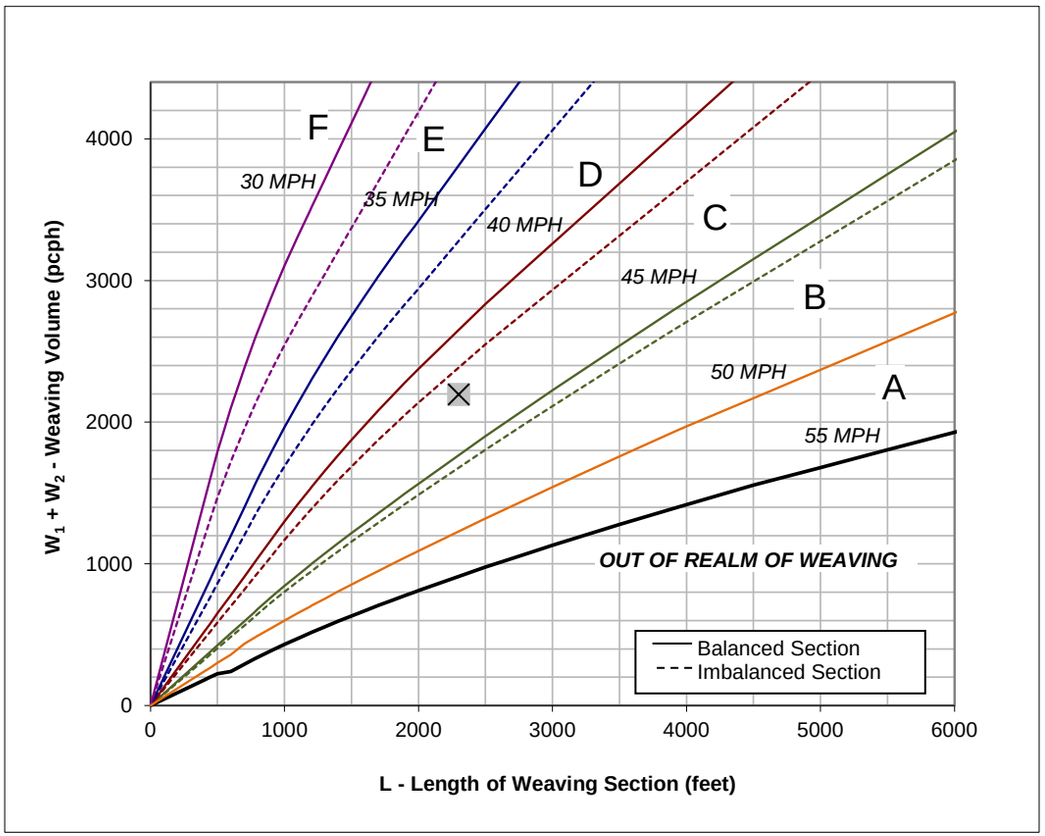
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,020	Volume (vph)*	1,010	Volume (vph)*	1,080
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,171	Volume (pcph)	1,061	Volume (pcph)	1,134

Project Information

Project	NCC
Scenario	2042 PM - ALT 1B
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



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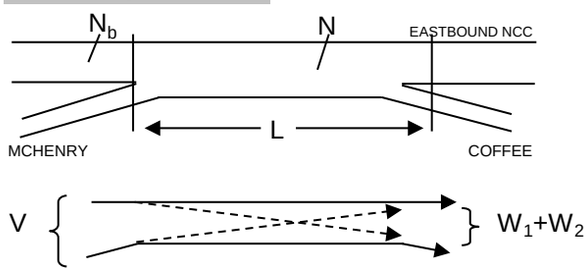


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   40 MPH and **45 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **42.6**
4. Weaving Intensity Factor (k) **2.27**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,129**
6. Level of Service (LOS) **C**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

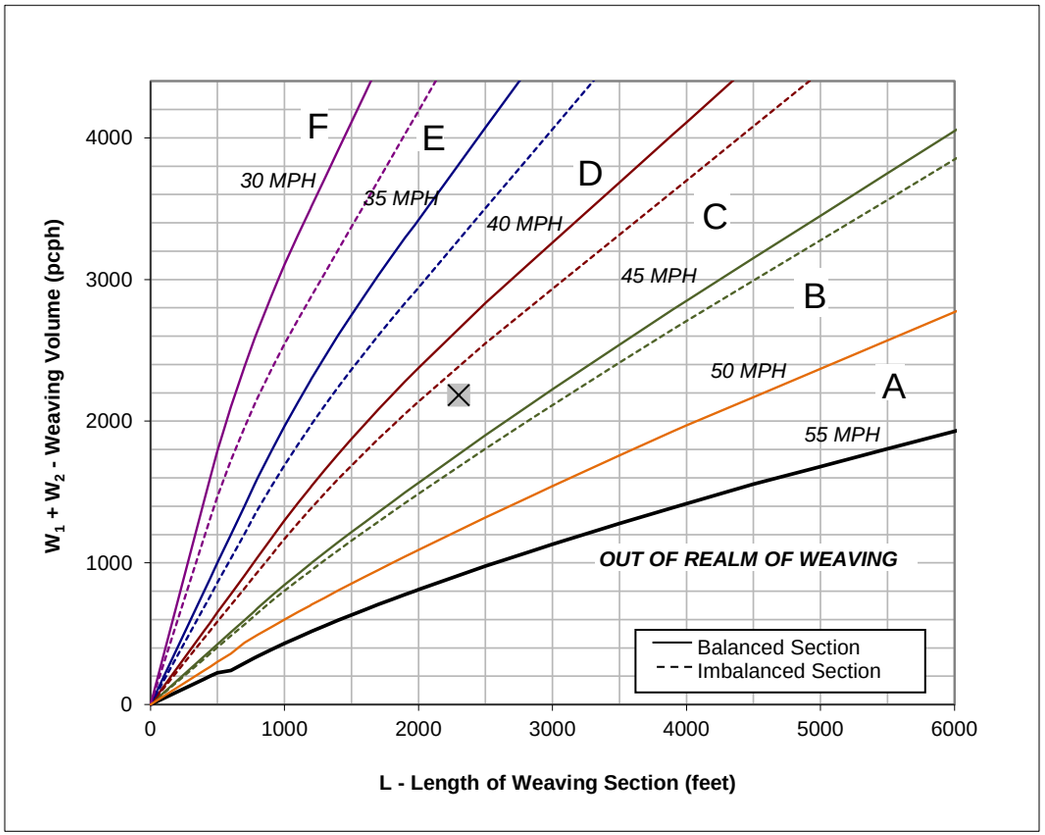
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,030	Volume (vph)*	1,010	Volume (vph)*	1,070
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,182	Volume (pcph)	1,061	Volume (pcph)	1,124

Project Information

Project	NCC
Scenario	2042 PM - ALT 1A
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



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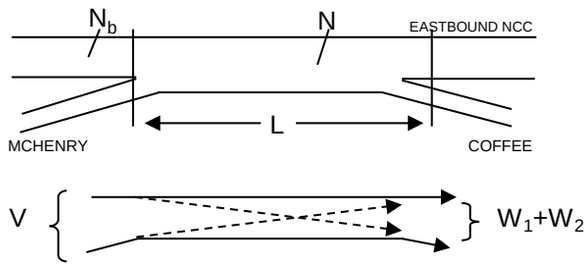


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   40 MPH and **45 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **42.7**
4. Weaving Intensity Factor (k) **2.26**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,128**
6. Level of Service (LOS) **C**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

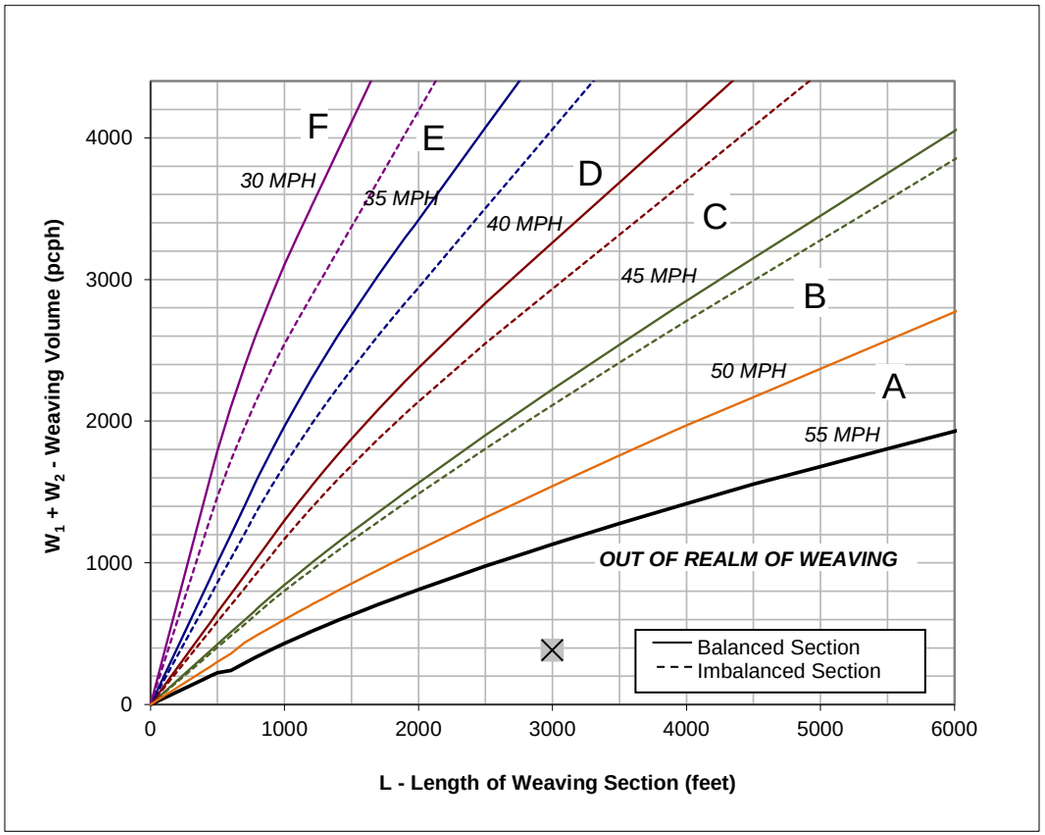
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	920	Volume (vph)*	170	Volume (vph)*	190
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	980	Volume (pcph)	181	Volume (pcph)	202

Project Information

Project	NCC
Scenario	2042 AM - ALT 2B
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



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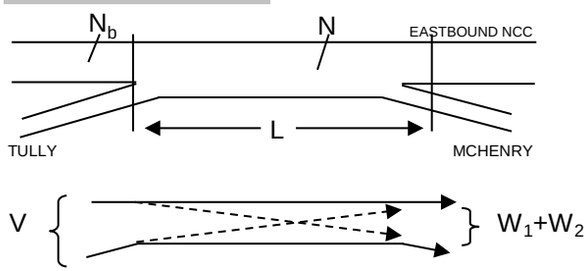


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **64.1**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **245**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

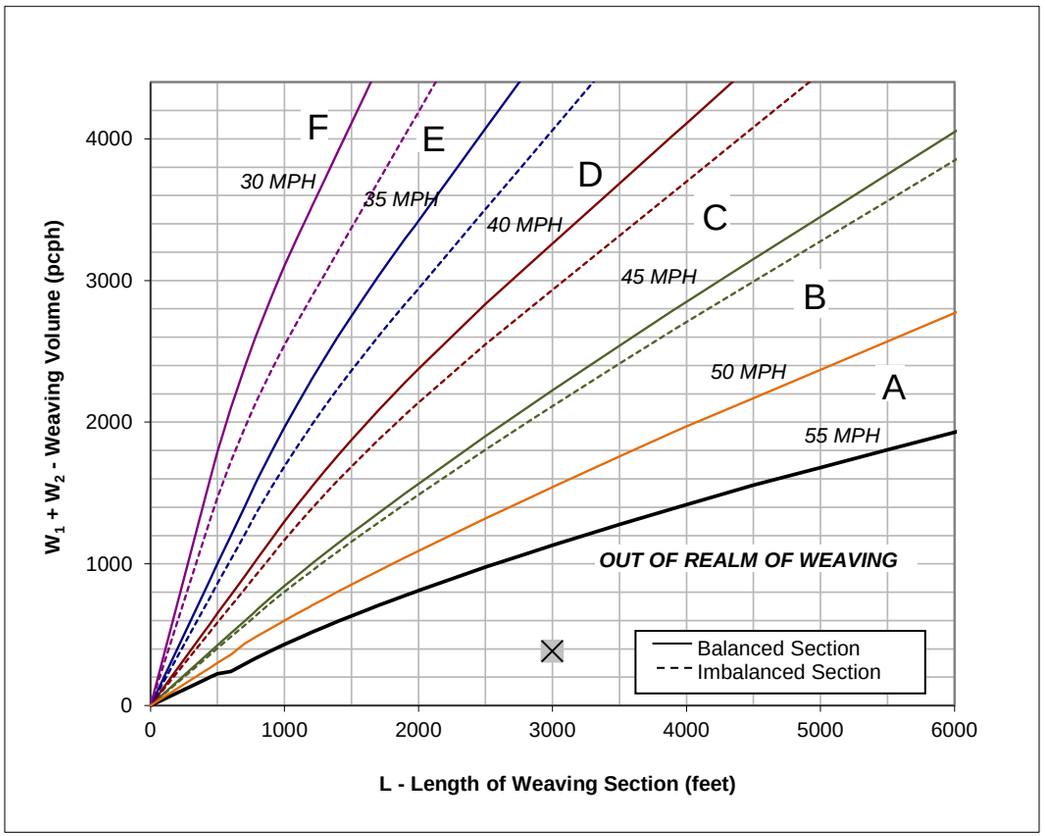
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	920	Volume (vph)*	170	Volume (vph)*	190
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	980	Volume (pcph)	181	Volume (pcph)	202

Project Information

Project	NCC
Scenario	2042 AM - ALT 2A
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



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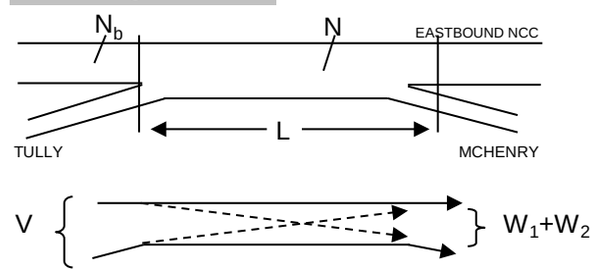

Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **64.1**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **245**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

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Leisch Method for Weaving Analysis

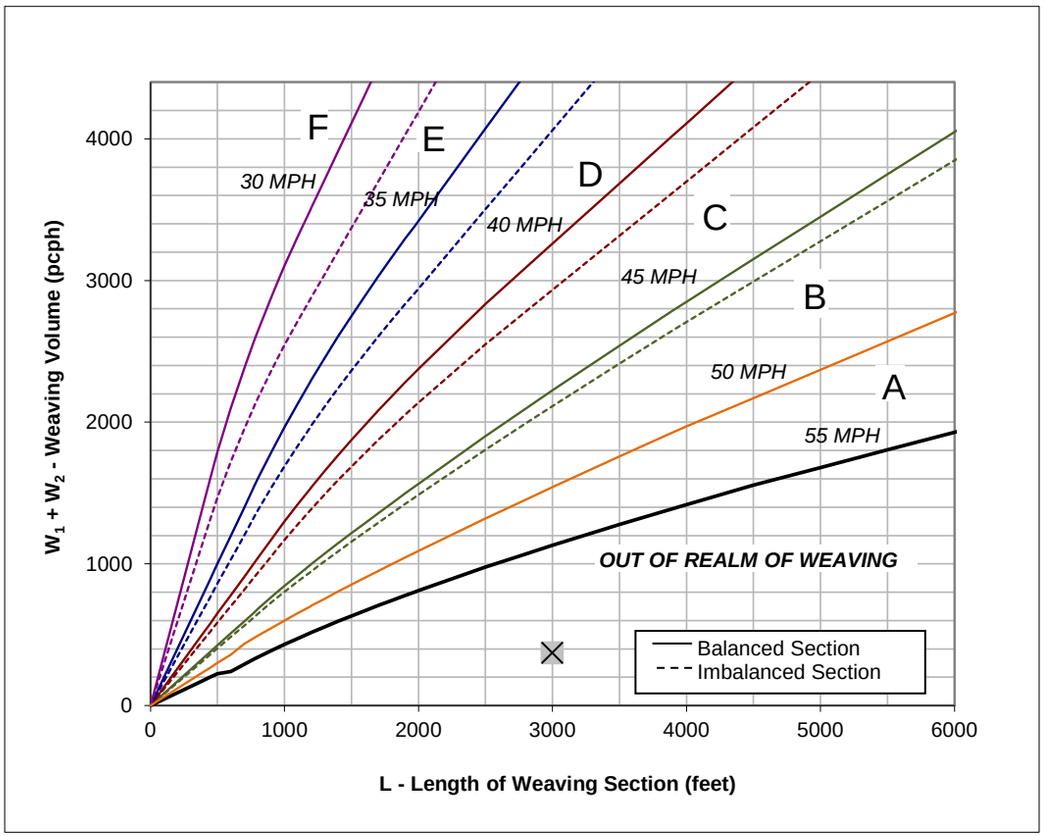
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,000	Volume (vph)*	170	Volume (vph)*	180
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,065	Volume (pcph)	181	Volume (pcph)	192

Project Information

Project	NCC
Scenario	2042 AM - ALT 1B
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



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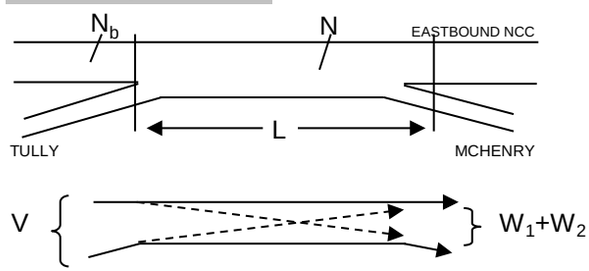

Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **64.2**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **266**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

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Leisch Method for Weaving Analysis

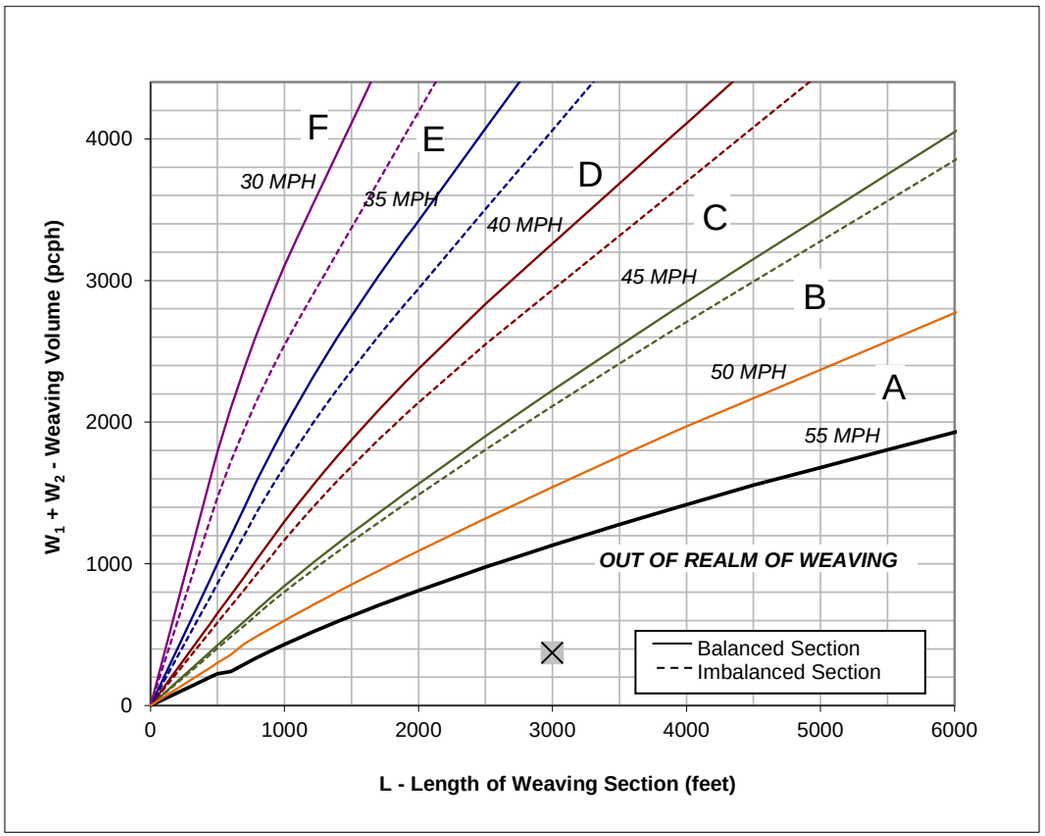
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,000	Volume (vph)*	170	Volume (vph)*	180
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,065	Volume (pcph)	181	Volume (pcph)	192

Project Information

Project	NCC
Scenario	2042 AM - ALT 1A
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



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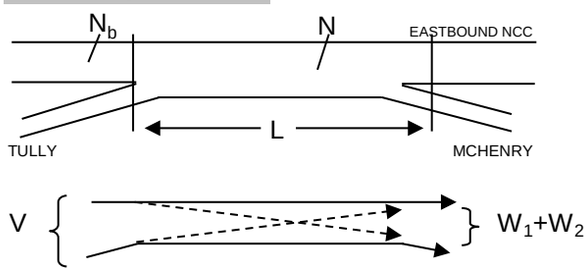

Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **64.2**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **266**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

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Leisch Method for Weaving Analysis

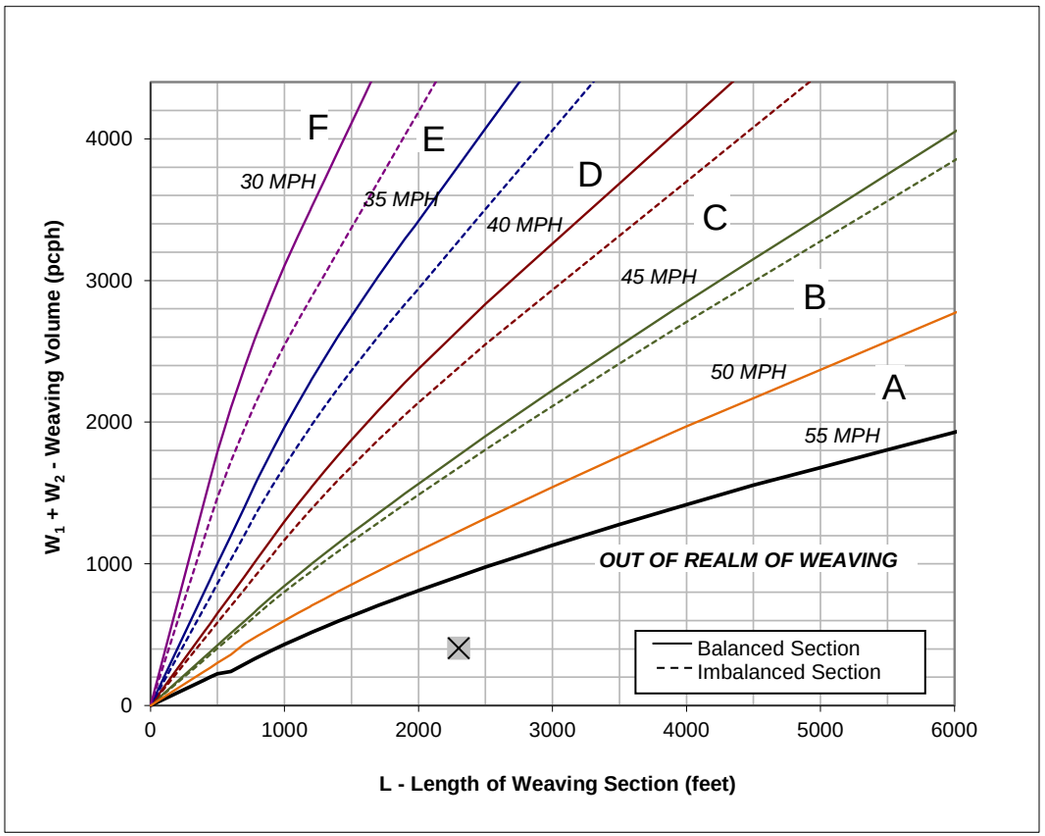
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	920	Volume (vph)*	190	Volume (vph)*	190
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	980	Volume (pcph)	202	Volume (pcph)	202

Project Information

Project	NCC
Scenario	2042 AM - ALT 2B
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



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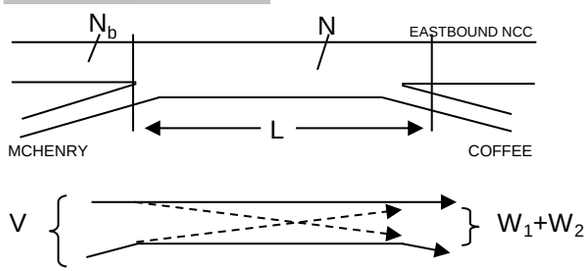


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **63.0**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **245**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

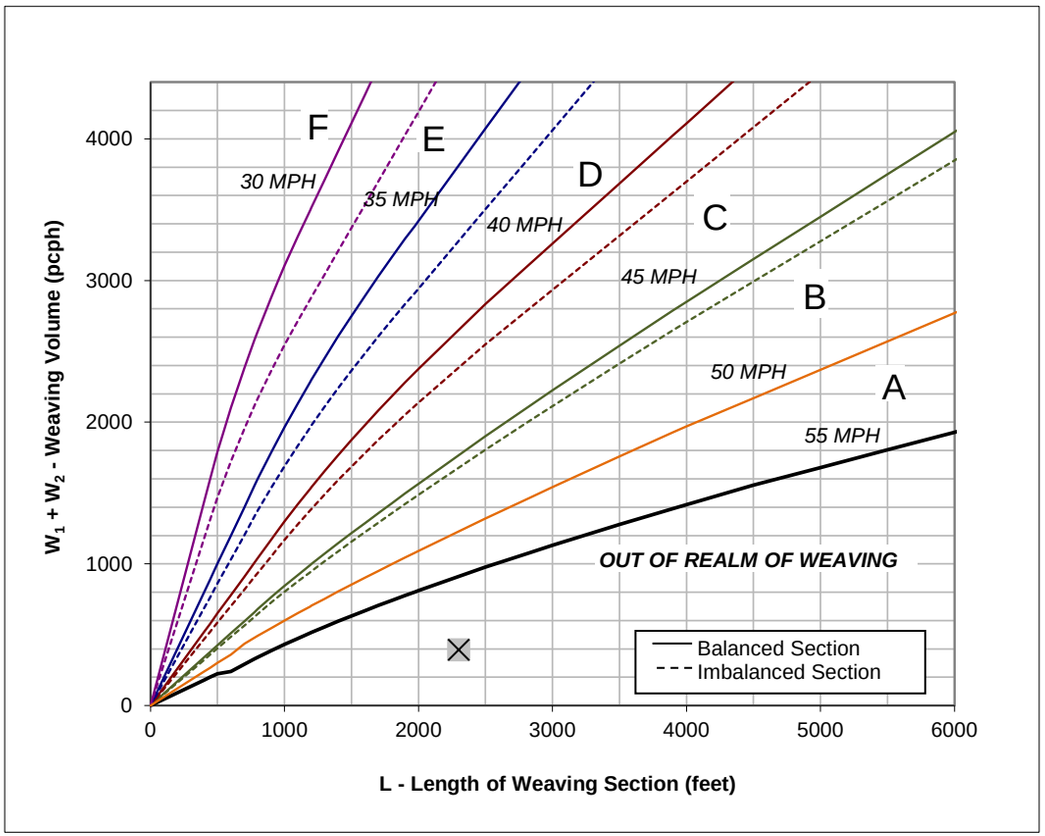
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	920	Volume (vph)*	190	Volume (vph)*	180
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	980	Volume (pcph)	202	Volume (pcph)	192

Project Information

Project	NCC
Scenario	2042 AM - ALT 2A
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



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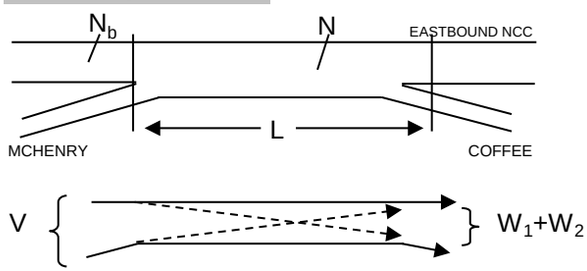


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **63.2**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **245**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

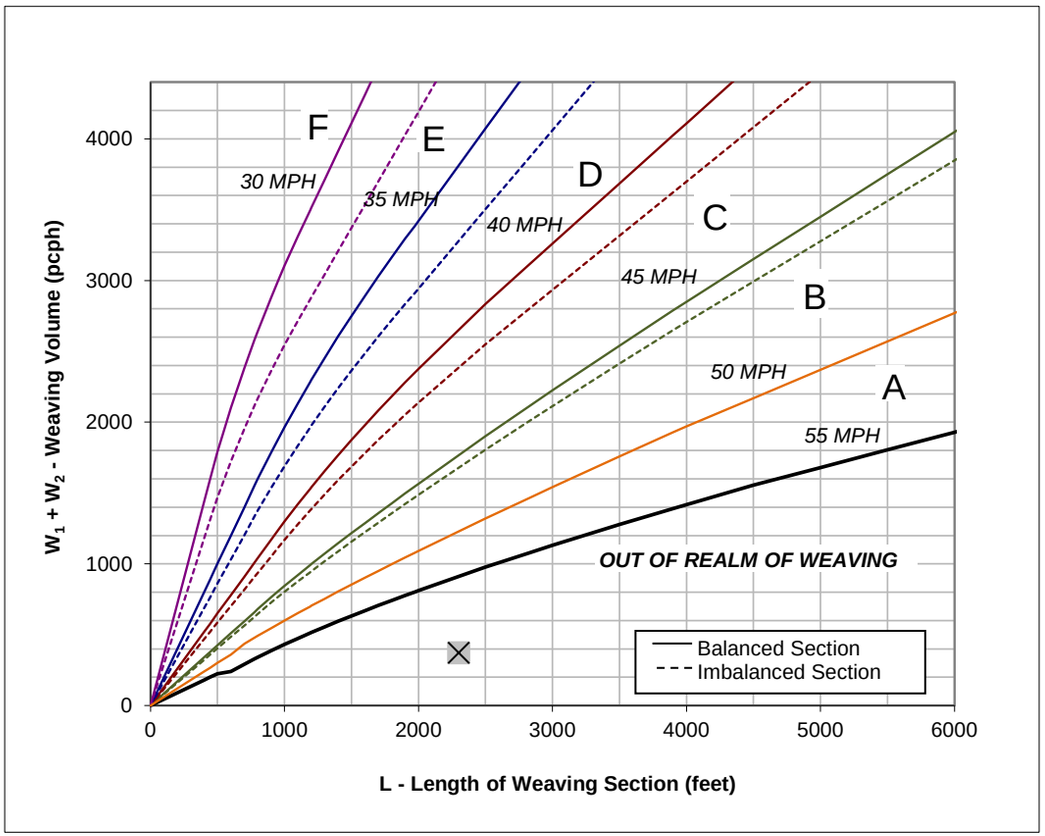
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

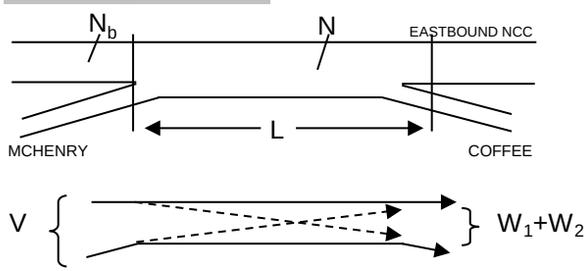
Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,010	Volume (vph)*	190	Volume (vph)*	160
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,076	Volume (pcph)	202	Volume (pcph)	170

Project Information

Project	NCC
Scenario	2042 AM - ALT 1B
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



Figure



Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **63.5**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **269**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

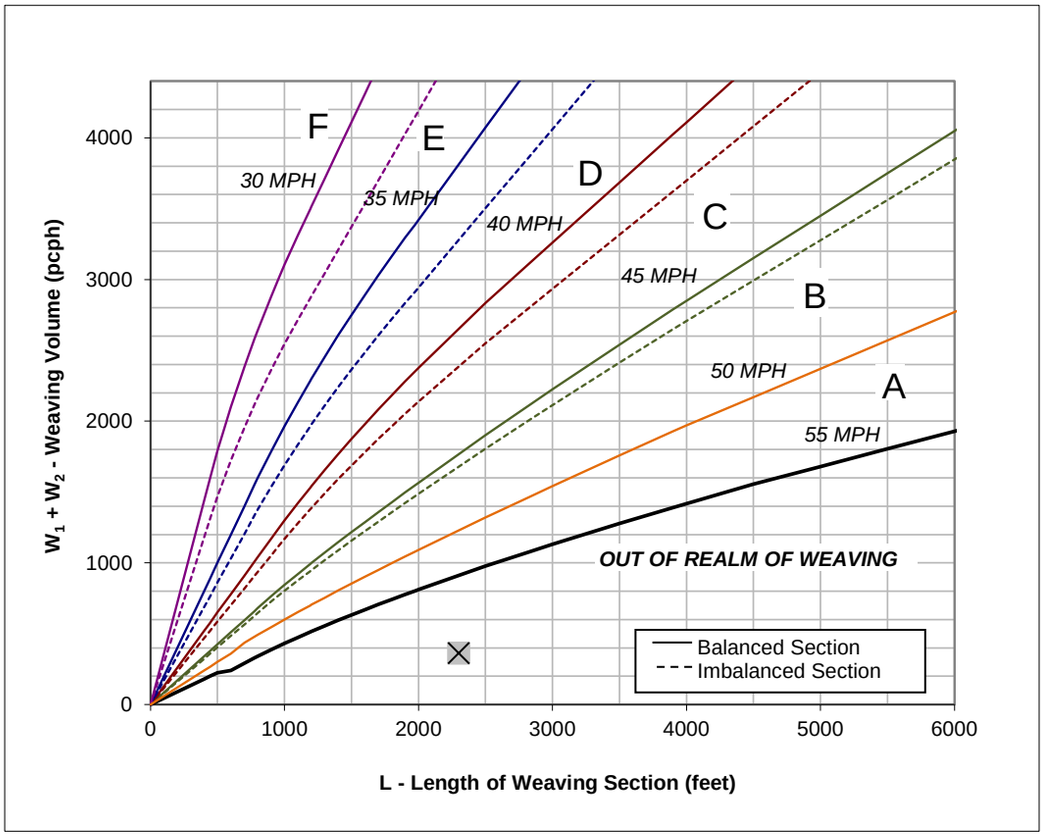
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	1,010	Volume (vph)*	190	Volume (vph)*	150
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,076	Volume (pcph)	202	Volume (pcph)	160

Project Information

Project	NCC
Scenario	2042 AM - ALT 1A
Freeway	EASTBOUND NCC
On-ramp	MCHENRY
Off-ramp	COFFEE



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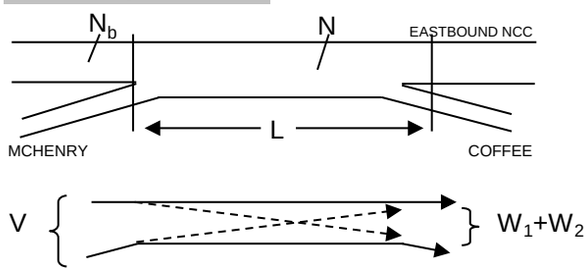


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **63.7**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **269**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

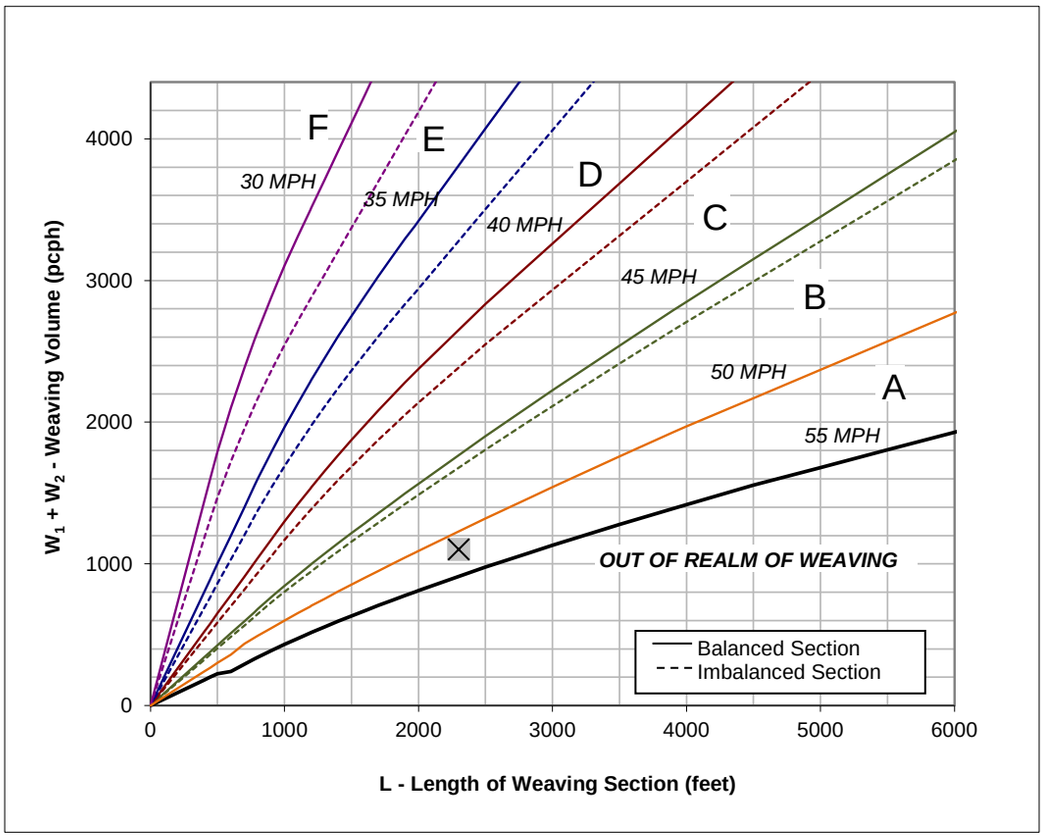
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,020	Volume (vph)*	560	Volume (vph)*	490
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,121	Volume (pcph)	588	Volume (pcph)	515

Project Information

Project	NCC
Scenario	2042 PM - ALT 2B
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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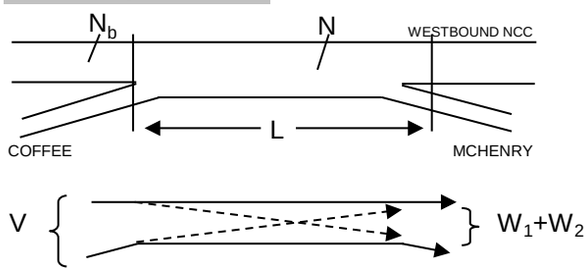


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **52.0**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **530**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

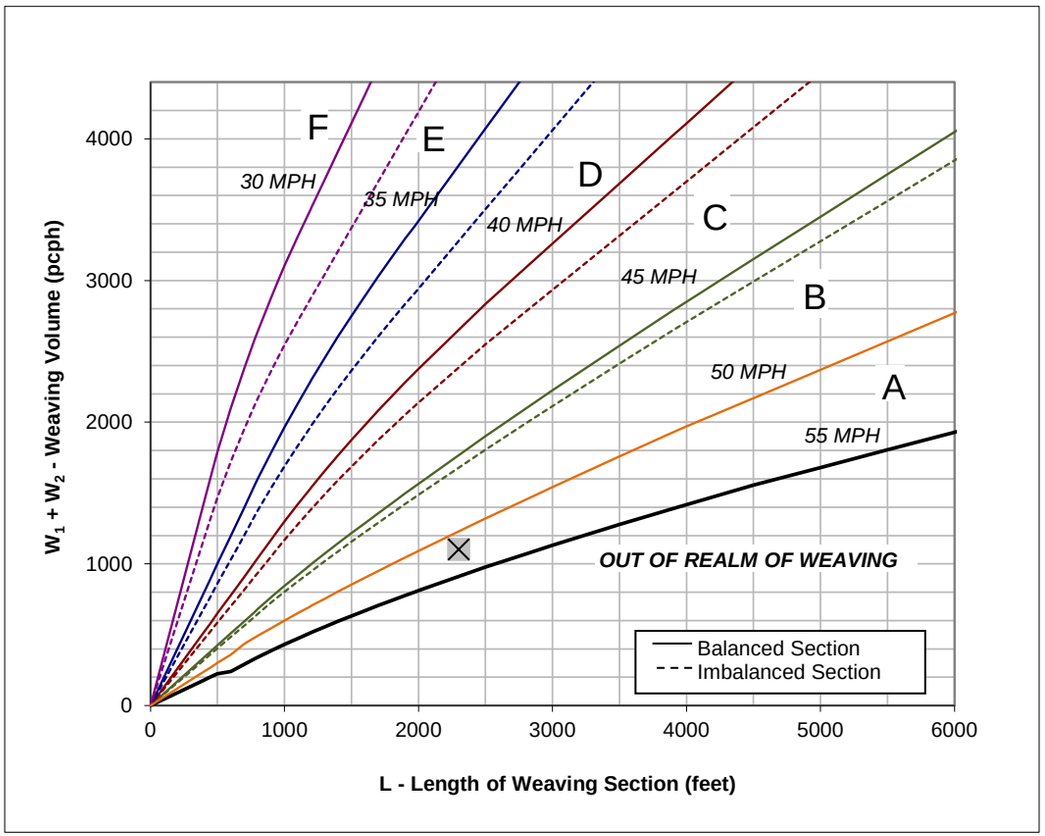
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,020	Volume (vph)*	560	Volume (vph)*	490
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,121	Volume (pcph)	588	Volume (pcph)	515

Project Information

Project	NCC
Scenario	2042 PM - ALT 2A
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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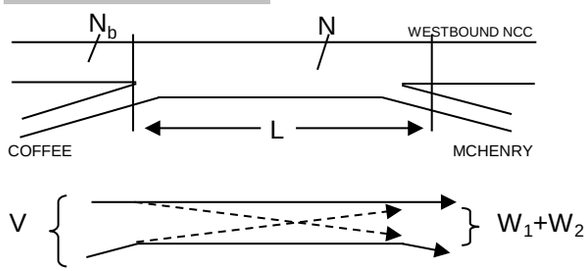


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **52.0**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **530**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

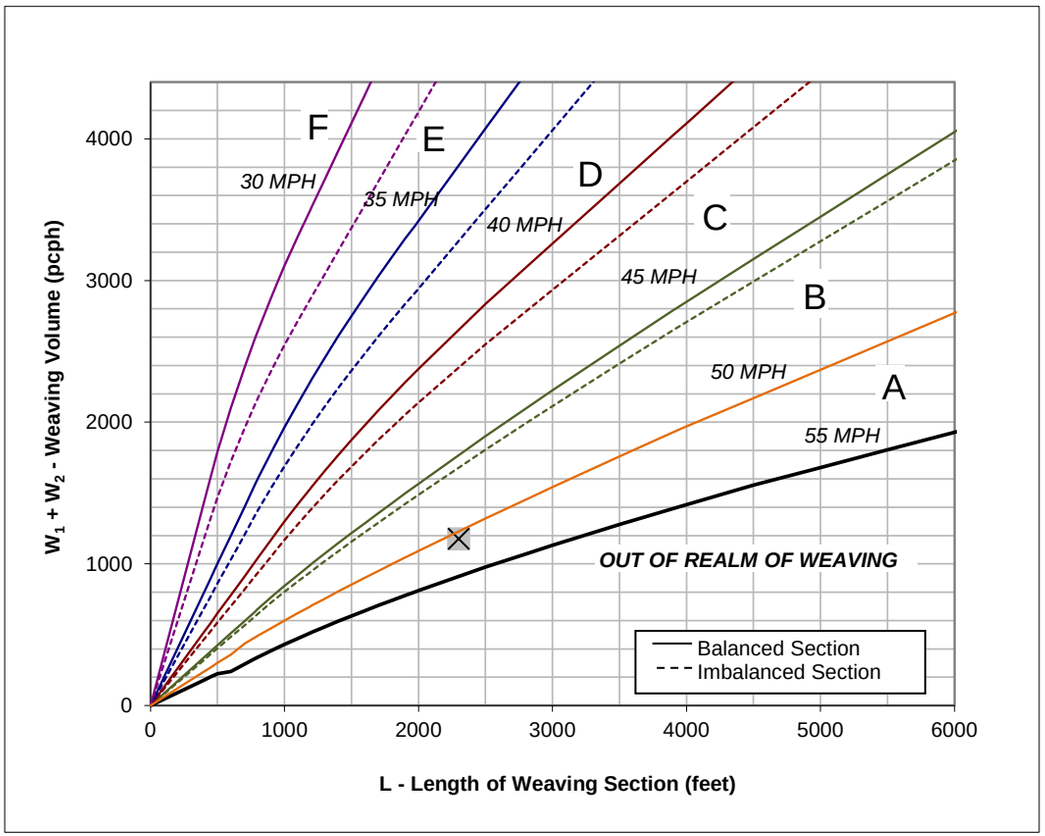
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,230	Volume (vph)*	550	Volume (vph)*	570
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,342	Volume (pcph)	578	Volume (pcph)	599

Project Information

Project	NCC
Scenario	2042 PM - ALT 1B
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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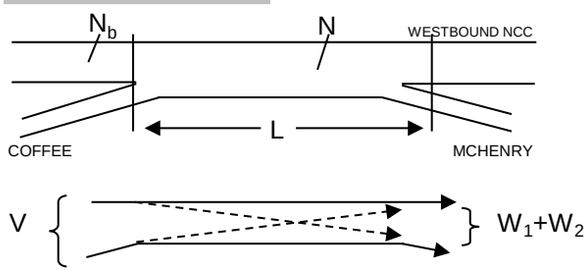


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **50.8**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **585**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

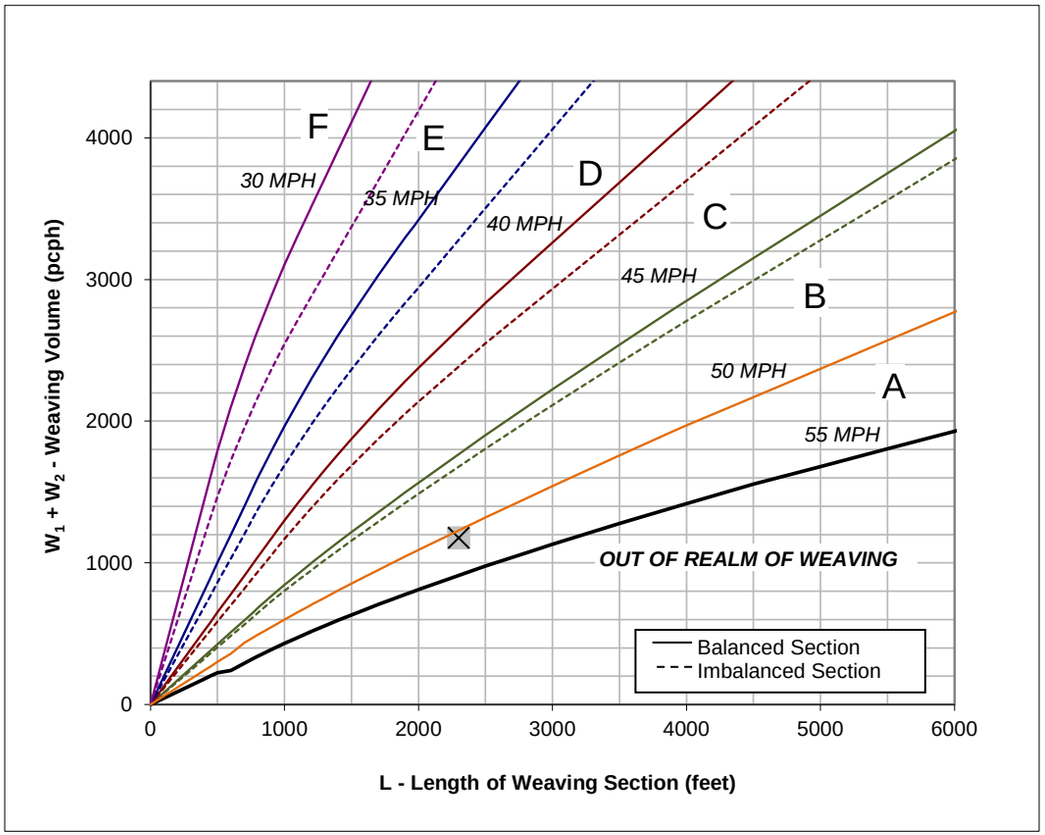
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,250	Volume (vph)*	550	Volume (vph)*	570
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,363	Volume (pcph)	578	Volume (pcph)	599

Project Information

Project	NCC
Scenario	2042 PM - ALT 1A
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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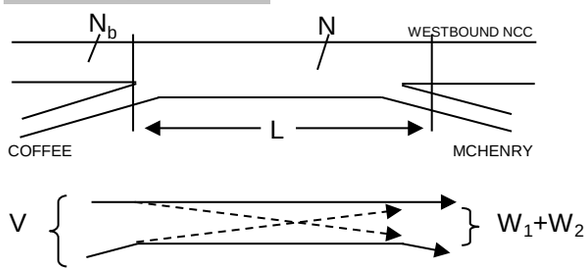


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **50.8**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **591**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

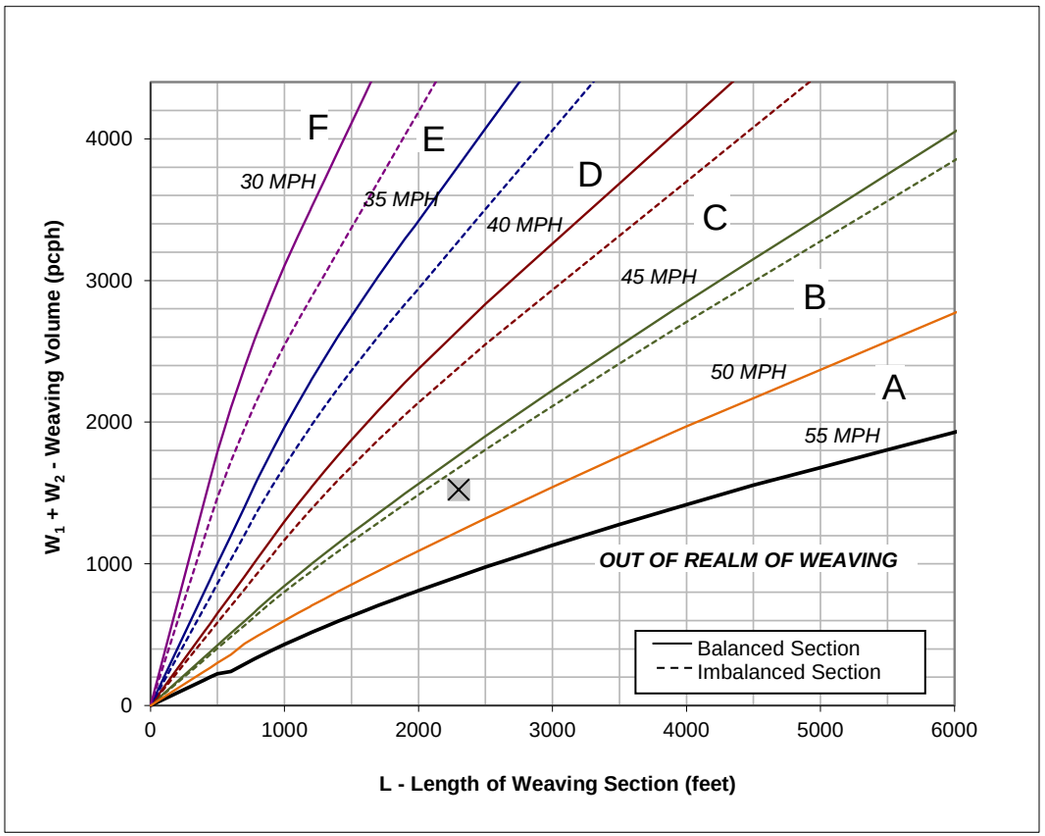
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,550	Volume (vph)*	870	Volume (vph)*	560
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,716	Volume (pcph)	927	Volume (pcph)	596

Project Information

Project	NCC
Scenario	2042 AM - ALT 2B
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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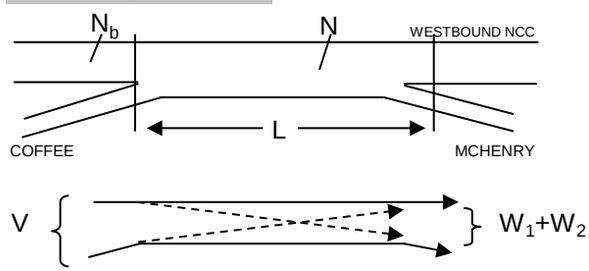


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   45 MPH and **50 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **46.7**
4. Weaving Intensity Factor (k) **1.72**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **787**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

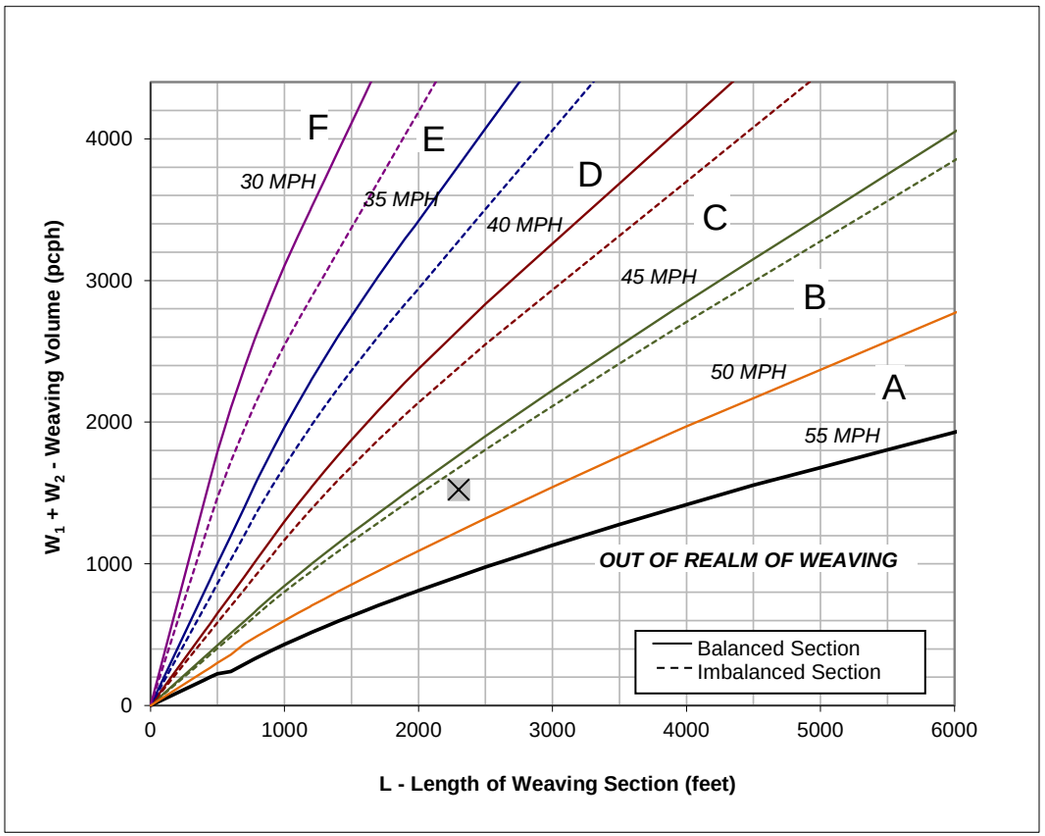
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,550	Volume (vph)*	870	Volume (vph)*	560
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,716	Volume (pcph)	927	Volume (pcph)	596

Project Information

Project	NCC
Scenario	2042 AM - ALT 2A
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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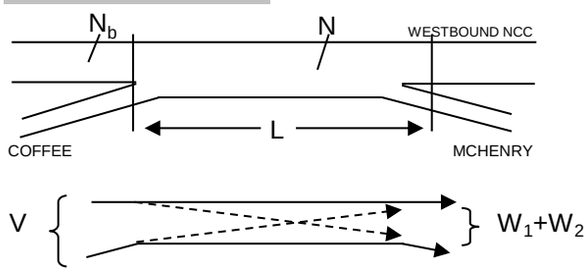


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   45 MPH and **50 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **46.7**
4. Weaving Intensity Factor (k) **1.72**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **787**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

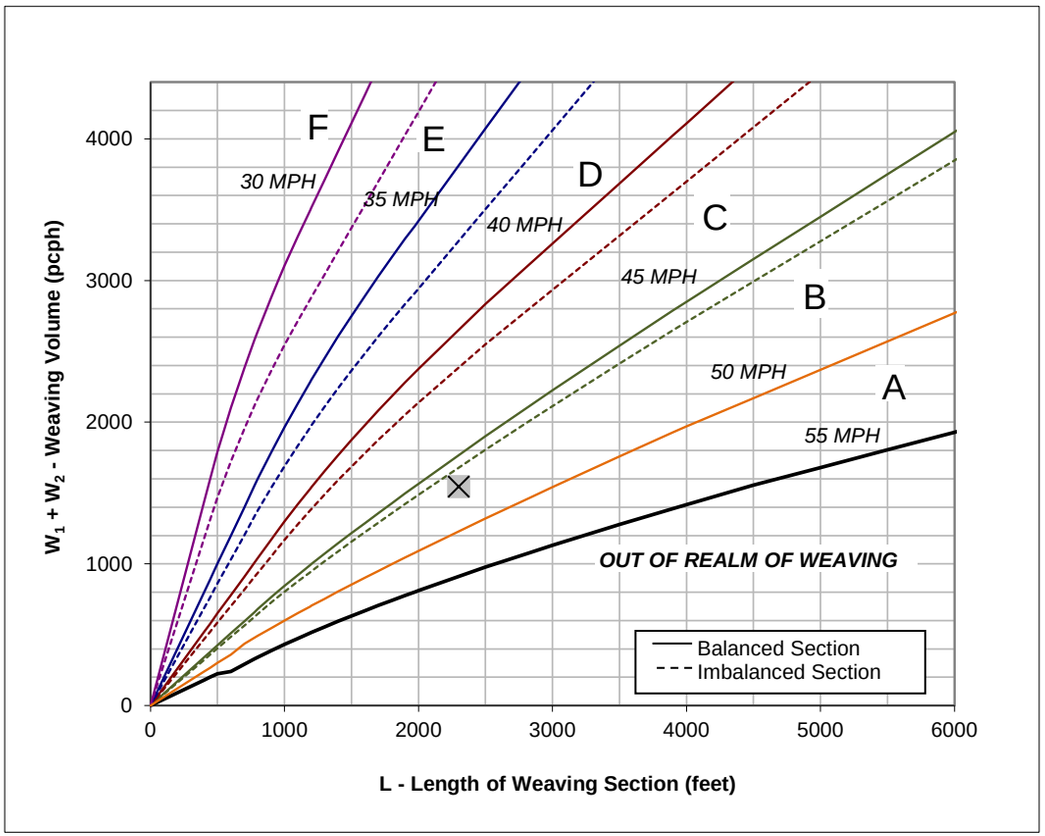
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,640	Volume (vph)*	870	Volume (vph)*	580
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,812	Volume (pcph)	927	Volume (pcph)	618

Project Information

Project	NCC
Scenario	2042 AM - ALT 1B
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



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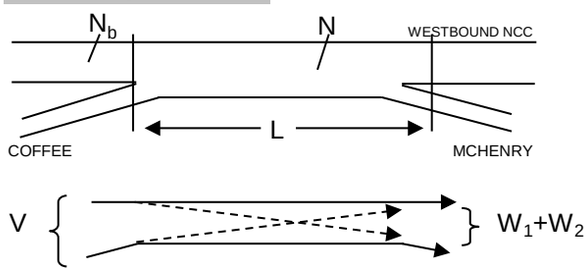


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   45 MPH and **50 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **46.5**
4. Weaving Intensity Factor (k) **1.75**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **819**
6. Level of Service (LOS) **B**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

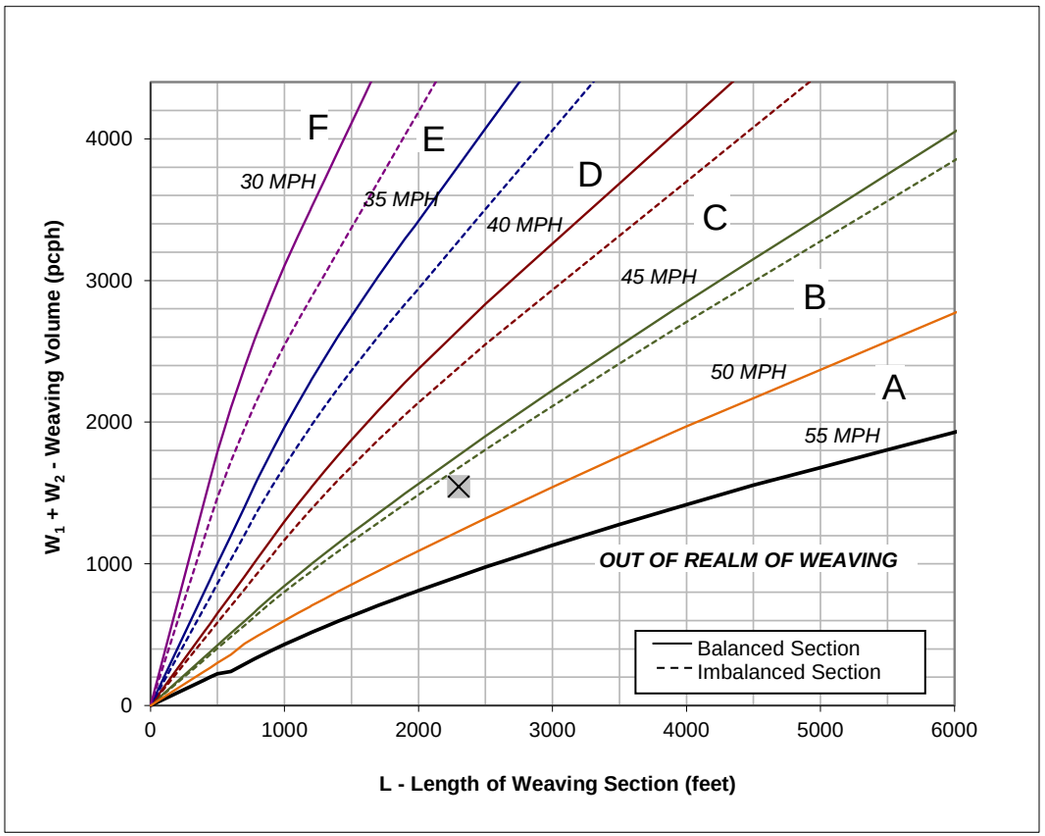
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,300

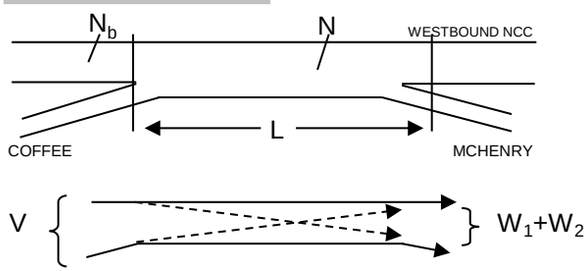
Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,660	Volume (vph)*	870	Volume (vph)*	580
Truck Percentage	13%	Truck Percentage	13%	Truck Percentage	13%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,833	Volume (pcph)	927	Volume (pcph)	618

Project Information

Project	NCC
Scenario	2042 AM - ALT 1A
Freeway	WESTBOUND NCC
On-ramp	COFFEE
Off-ramp	MCHENRY



Figure



Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   45 MPH and **50 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **46.5**
4. Weaving Intensity Factor (k) **1.75**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **824**
6. Level of Service (LOS) **B**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

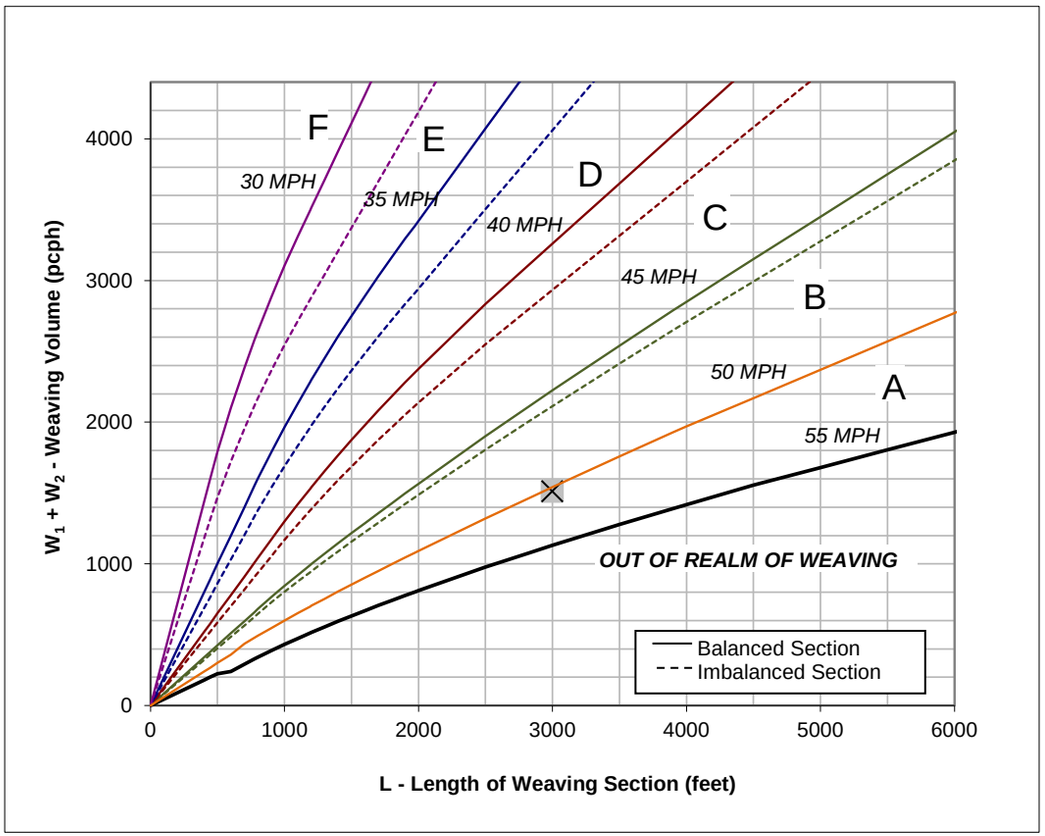
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,000

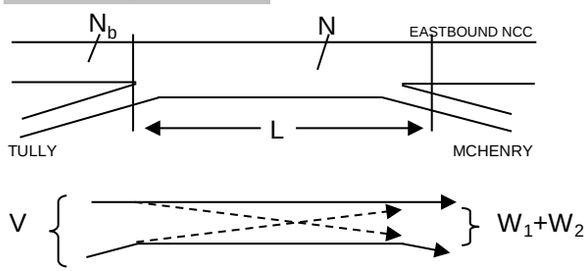
Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,590	Volume (vph)*	860	Volume (vph)*	580
Truck Percentage	10%	Truck Percentage	10%	Truck Percentage	10%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,720	Volume (pcph)	903	Volume (pcph)	609

Project Information

Project	NCC
Scenario	2042 PM - ALT 2B
Freeway	EASTBOUND NCC
On-ramp	TULLY
Off-ramp	MCHENRY



Figure



Capacity Analysis

1. Is the weaving section balanced (Y / N)? **N**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   50 MPH and **55 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **50.4**
4. Weaving Intensity Factor (k) **1.00**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **680**
6. Level of Service (LOS) **A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

APPENDIX X:
2042 ROADWAY SEGMENT ANALYSIS WORKSHEETS

Table W-1
Year 2042 AM PEAK HOUR ROADWAY SEGMENT LEVEL OF SERVICE

ID	Road	Study Limits		Jurisdiction	No Project					Alternative 1A					Alternative 1B					Alternative 2A					Alternative 2B				
		From	To		Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS
1	SR 219 (Kiernan Avenue)	Tully Road	McHenry Avenue	Caltrans	2,690	4	4,000	0.673	C	3,270	6	6,000	0.545	C	3,270	6	6,000	0.545	C	3,180	6	6,000	0.530	C	3,180	6	6,000	0.530	C
5	Coffee Road	SR 108	Claribel Road	Stanislaus County	930	4	4,000	0.233	A	1,070	4	4,000	0.268	A	1,080	4	4,000	0.270	A	1,100	4	4,000	0.275	A	1,110	4	4,000	0.278	A
6	Coffee Road	Claribel Road	Pelandale Avenue	City of Modesto	1,070	4	4,000	0.268	A	1,710	4	4,000	0.428	B	1,710	4	4,000	0.428	B	1,600	4	4,000	0.400	B	1,600	4	4,000	0.400	B
7	Oakdale Road	SR 108	Claribel Road	City of Riverbank	1,400	4	3,600	0.389	B	1,070	4	3,600	0.297	B	1,090	4	3,600	0.303	B	1,190	4	3,600	0.331	B	1,230	4	3,600	0.342	B
8	Oakdale Road	Claribel Road	Pelandale Avenue	City of Modesto	1,450	6	6,000	0.242	A	1,680	6	6,000	0.280	A	1,680	6	6,000	0.280	A	1,710	6	6,000	0.285	B	1,700	6	6,000	0.283	B
9	Claribel Road	SR 108	Coffee Road	Stanislaus County	2,370	4	3,600	0.658	C	3,670	6	7,500	0.489	B	3,650	6	7,500	0.487	B	3,470	6	7,500	0.463	B	3,470	6	7,500	0.463	B
10	Claribel Road	Coffee Road	Oakdale Road	Stanislaus County	1,620	4	3,600	0.450	B	3,450	6	7,500	0.460	B	3,420	6	7,500	0.456	B	3,090	6	7,500	0.412	B	3,080	6	7,500	0.411	B
11	Claratina Avenue	McHenry Avenue	Coffee Road	City of Modesto	4,020	6	6,000	0.670	C	3,800	6	6,000	0.633	C	3,800	6	6,000	0.633	C	3,870	6	6,000	0.645	C	3,870	6	6,000	0.645	C
12	Claratina Avenue	Coffee Road	Oakdale Road	City of Modesto	3,020	6	6,000	0.503	C	2,770	6	6,000	0.462	B	2,770	6	6,000	0.462	B	2,920	6	6,000	0.487	B	2,920	6	6,000	0.487	B
14	SR 108	1st Street	Claus Road	Caltrans	1,580	2	2,000	0.790	E	790	2	2,000	0.395	D	870	2	2,000	0.435	D	1,130	2	2,000	0.565	D	1,180	2	2,000	0.590	D
15	Patterson Road	SR 108	Langworth Road	City of Riverbank	1,270	4	4,000	0.318	B	1,050	4	4,000	0.263	A	1,050	4	4,000	0.263	A	1,160	4	4,000	0.290	B	1,160	4	4,000	0.290	B
16	Roselle Avenue	Patterson Road	Claribel Road	City of Riverbank	1,060	4	4,000	0.265	A	910	4	4,000	0.228	A	910	4	4,000	0.228	A	930	4	4,000	0.233	A	930	4	4,000	0.233	A
17	Roselle Avenue	Claribel Road	Sylvan Avenue	Stanislaus County	1,640	4	3,600	0.456	B	1,710	4	3,600	0.475	C	1,700	4	3,600	0.472	C	1,680	4	3,600	0.467	B	1,650	4	3,600	0.458	B
18	Claus Road	Patterson Road	Claribel Road	City of Riverbank	1,500	4	4,000	0.375	B	1,400	4	4,000	0.350	B	1,430	4	4,000	0.358	B	1,710	4	4,000	0.428	B	1,760	4	4000	0.440	B
19	Claus Road	Claribel Road	Sylvan Avenue	Stanislaus County	2,000	6	6,000	0.333	B	1,750	4	4,000	0.438	B	1,720	4	4,000	0.430	B	1,390	4	4,000	0.348	B	1,420	4	4000	0.355	B
20	Claribel Road	Oakdale Road	Claus Road	Stanislaus County	1,710	4	3,600	0.475	C	1,230	4	3,600	0.342	B	1,230	4	3,600	0.342	B	1,220	4	3,600	0.339	B	1,220	4	3,600	0.339	B
22	Langworth Road	SR 108	Claribel Road	Stanislaus County	700	2	2,000	0.350	D	130	2	2,000	0.065	A	140	2	2,000	0.070	A	240	2	2,000	0.120	B	260	2	2,000	0.130	B
23	Claribel Road	Claus Road	Langworth Road	Stanislaus County	1,640	4	3,600	0.456	B	540	2	2,000	0.270	C	540	2	2,000	0.270	C						0		0		
25	Patterson Road	Crane Road	Albers Road	Stanislaus County	820	2	2,000	0.410	D	390	2	2,000	0.195	C	390	2	2,000	0.195	C	740	2	2,000	0.370	D	740	2	2,000	0.370	D
26	Claribel Road	Langworth Road	akdale-Waterford Hw	Stanislaus County	920	2	2,000	0.460	D	560	2	2,000	0.280	C	560	2	2,000	0.280	C	150	2	2,000	0.075	B	150	2	2,000	0.075	B
28	Yosemite Avenue	SR 108	Patterson Road	Stanislaus County	2,170	2	2,000	1.085	F	2,650	2	2,000	1.325	F	2,710	2	2,000	1.355	F	2,270	2	2,000	1.135	F	2,440	2	2,000	1.220	F
29	Albers Road	Patterson Road	Claribel Road	Stanislaus County	1,740	2	2,000	0.870	E	1,450	2	2,000	0.725	E	1,450	2	2,000	0.725	E	1,360	2	2,000	0.680	E	1,360	2	2,000	0.680	E
30	Oakdale-Waterford Hwy	Albers Road	Claribel Road	Stanislaus County	610	2	2,000	0.305	C	600	2	2,000	0.300	C	600	2	2,000	0.300	C	900	2	2,000	0.450	D	900	2	2,000	0.450	D

Notes: Shading indicates unacceptable operations
1 . V/C = Volume-to-Capacity Ratio
Source: Fehr & Peers, 2014.

Table W-2
Year 2042 PM PEAK HOUR ROADWAY SEGMENT LEVEL OF SERVICE

ID	Road	Study Limits		Jurisdiction	No Project					Alternative 1A					Alternative 1B					Alternative 2A					Alternative 2B				
		From	To		Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS	Volume	Lanes	Capacity	V/C[1]	LOS
1	SR 219 (Kiernan Avenue)	Tully Road	McHenry Avenue	Caltrans	3,540	4	4,000	0.885	E	4,070	6	6,000	0.678	C	4,070	6	6,000	0.678	C	3,890	6	6,000	0.648	C	3,890	6	6,000	0.648	C
5	Coffee Road	SR 108	Claribel Road	Stanislaus County	1,170	4	4,000	0.293	B	1,560	4	4,000	0.390	B	1,570	4	4,000	0.393	B	1,580	4	4,000	0.395	B	1,600	4	4,000	0.400	B
6	Coffee Road	Claribel Road	Pelandale Avenue	City of Modesto	1,660	4	4,000	0.415	B	1,970	4	4,000	0.493	C	1,970	4	4,000	0.493	C	1,900	4	4,000	0.475	C	1,900	4	4,000	0.475	C
7	Oakdale Road	SR 108	Claribel Road	City of Riverbank	1,840	4	3,600	0.511	C	1,450	4	3,600	0.403	B	1,470	4	3,600	0.408	B	1,640	4	3,600	0.456	B	1,680	4	3,600	0.467	B
8	Oakdale Road	Claribel Road	Pelandale Avenue	City of Modesto	1,850	6	6,000	0.308	B	1,960	6	6,000	0.327	B	1,880	6	6,000	0.313	B	2,000	6	6,000	0.333	B	2,000	6	6,000	0.333	B
9	Claribel Road	SR 108	Coffee Road	Stanislaus County	2,850	4	3,600	0.792	E	5,280	6	7,500	0.704	D	5,250	6	7,500	0.700	C	4,900	6	7,500	0.653	C	4,900	6	7,500	0.653	C
10	Claribel Road	Coffee Road	Oakdale Road	Stanislaus County	1,900	4	3,600	0.528	C	4,610	6	7,500	0.615	C	4,570	6	7,500	0.609	C	4,220	6	7,500	0.563	C	4,200	6	7,500	0.560	C
11	Claratina Avenue	McHenry Avenue	Coffee Road	City of Modesto	5,180	6	6,000	0.863	E	4,720	6	6,000	0.787	D	4,720	6	6,000	0.787	D	4,790	6	6,000	0.798	D	4,790	6	6,000	0.798	D
12	Claratina Avenue	Coffee Road	Oakdale Road	City of Modesto	4,200	6	6,000	0.700	C	3,610	6	6,000	0.602	C	3,610	6	6,000	0.602	C	3,700	6	6,000	0.617	C	3,700	6	6,000	0.617	C
14	SR 108	1st Street	Claus Road	Caltrans	1,620	2	2,000	0.810	E	1,050	2	2,000	0.525	D	1,120	2	2,000	0.560	D	1,350	2	2,000	0.675	E	1,410	2	2,000	0.705	E
15	Patterson Road	SR 108	Langworth Road	City of Riverbank	1,660	4	4,000	0.415	B	1,320	4	4,000	0.330	B	1,350	4	4,000	0.338	B	1,420	4	4,000	0.355	B	1,450	4	4,000	0.363	B
16	Roselle Avenue	Patterson Road	Claribel Road	City of Riverbank	1,190	4	4,000	0.298	B	1,000	4	4,000	0.250	A	1,000	4	4,000	0.250	A	1,020	4	4,000	0.255	A	1,020	4	4,000	0.255	A
17	Roselle Avenue	Claribel Road	Sylvan Avenue	Stanislaus County	2,070	4	3,600	0.575	C	1,990	4	3,600	0.553	C	1,990	4	3,600	0.553	C	2,020	4	3,600	0.561	C	2,070	4	3,600	0.575	C
18	Claus Road	Patterson Road	Claribel Road	City of Riverbank	1,820	4	4,000	0.455	B	1,630	4	4,000	0.408	B	1,670	4	4,000	0.418	B	1,800	4	4,000	0.450	B	1,870	4	4,000	0.468	B
19	Claus Road	Claribel Road	Sylvan Avenue	Stanislaus County	2,490	6	6,000	0.415	B	2,730	4	4,000	0.683	C	2,730	4	4,000	0.683	C	2,000	4	4,000	0.500	B	2,000	4	4,000	0.500	B
20	Claribel Road	Oakdale Road	Claus Road	Stanislaus County	1,970	4	3,600	0.547	C	1,520	4	3,600	0.422	B	1,520	4	3,600	0.422	B	1,600	4	3,600	0.444	B	1,600	4	3,600	0.444	B
22	Langworth Road	SR 108	Claribel Road	Stanislaus County	920	2	2,000	0.460	D	460	2	2,000	0.230	C	480	2	2,000	0.240	C	430	2	2,000	0.215	C	460	2	2,000	0.230	C
23	Claribel Road	Claus Road	Langworth Road	Stanislaus County	1,770	4	3,600	0.492	C	960	2	2,000	0.480	D	960	2	2,000	0.480	D										
25	Patterson Road	Crane Road	Albers Road	Stanislaus County	1,000	2	2,000	0.500	D	480	2	2,000	0.240	C	480	2	2,000	0.240	C	930	2	2,000	0.465	D	930	2	2,000	0.465	D
26	Claribel Road	Langworth Road	Oakdale-Waterford Hwy	Stanislaus County	970	2	2,000	0.485	D	570	2	2,000	0.285	C	570	2	2,000	0.285	C	160	2	2,000	0.080	B	160	2	2,000	0.080	B
28	Yosemite Avenue	SR 108	Patterson Road	Stanislaus County	2,080	2	2,000	1.040	F	3,180	2	2,000	1.590	F	3,350	2	2,000	1.675	F	2,230	2	2,000	1.115	F	2,450	2	2,000	1.225	F
29	Albers Road	Patterson Road	Claribel Road	Stanislaus County	1,650	2	2,000	0.825	E	1,350	2	2,000	0.675	E	1,350	2	2,000	0.675	E	1,210	2	2,000	0.605	E	1,210	2	2,000	0.605	E
30	Oakdale-Waterford Hwy	Albers Road	Claribel Road	Stanislaus County	820	2	2,000	0.410	D	940	2	2,000	0.470	D	940	2	2,000	0.470	D	1,140	2	2,000	0.570	D	1,140	2	2,000	0.570	D

Notes: Shading indicates unacceptable operations
1 . V/C = Volume-to-Capacity Ratio
Source: Fehr & Peers, 2014.